IEC SOURCE CONTROL REPORT

CPS/Madison Superfund Site
Old Bridge, Middlesex County, New Jersey
EPA I.D. Number: NJD002141190

May 2017

Submitted to:

NJDEP, BCM	USEPA Region 2
401 East State Street	NJ Remediation Branch
Mailcode 401-05F	290 Broadway
Trenton, NJ USEPA	New York, NY

Prepared for:

BASF Corporation
Oak Ridge Parkway
Toms River, NJ 08754

Prepared by:

PRINCETON GEOSCIENCE, INC.

Princeton Geoscience, Inc.
15 Vandeventer Avenue
Princeton, New Jersey
08542-6920

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1.0 BACKGROUND

1.1 Site Description

BASF Corporation (BASF) is addressing an Immediate Environmental Concern (IEC) associated with the 1,4-dioxane plume at the CPS/Madison Superfund Site, located in Old Bridge Township, Middlesex County, New Jersey (**Figure 1**). The CPS/Madison Superfund Site is identified as EPA ID# NJD002141190.

An Administrative Order on Consent (AOC) dated 10/5/2005 between the United States Environmental Protection Agency Region 2 (EPA) and Ciba Specialty Chemicals Corporation (Ciba) provides the regulatory framework for the current Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) project. As per this framework, BASF (as Ciba's corporate successor) is responsible for the following:

- Characterizing the nature and extent of site-related organic contamination in all media;
- Characterizing the nature and extent of metals contamination in groundwater only;
- Conducting risk assessments for those media that show impacts from CPS-related organic contamination. When a completed pathway is identified for CPS-related impacts, consider all Site contaminants of concern including metals; and
- Conducting a feasibility study (FS) for those media that show unacceptable risk to human health or the environment and/or do not meet Applicable or Relevant and Appropriate Requirements (ARARs) due to site-related organic contamination. For CPS-related impacts consider all media, and for Madison-related impacts consider groundwater only.

The Superfund Site includes three Operable Units:

- OU1 – Groundwater;
- OU2 – Soils that act as groundwater sources and are contact hazards on the CPS facility; and
- OU3 – Soils that act as groundwater sources and are contact hazards on the Madison facility.

OU2 is onsite and includes soils in the former plant and production areas (**Figure 2)** while OU3 is located on the adjacent Madison site (**Figure** 1). The 1,4-dioxane IEC pertains to OU1 (groundwater). The CPS/Madison Site is currently in the Feasibility Study phase; a Remedial Investigation Report was completed and submitted in final form to USEPA, NJDEP and other parties on October 9, 2015.

1.2 CPS/Madison IRMs – Plume Source Control

As an Interim Remedial Measure (IRM) until source conditions can be addressed, groundwater extraction and treatment systems have been operating onsite since 1996. **Figure 3** shows the current configuration of the IRMs. There are two separate systems. The CPS system contains the CPS-related groundwater impacts and the Madison system contains the Madison-related groundwater impacts..

Capture efficiency is assessed through the Performance Monitoring Program (PMP) sampling events and reported on an annual basis with the PMP monitoring reports (two separate reports relating to CPS [issued by BASF] and Madison). NJDEP retains oversight for the IRM operation and PMP reporting.

1.3 Description of the Immediate Environmental Concern (IEC)

The Perth Amboy water supply well field (PAWF) operated by Utility Service Affiliates (Perth Amboy) [USA-PA] is located ~3000' downgradient of the CPS site. The well field consists of five wells, PA-5, -6A, -7, -8 and -9A/B (also called the Ranney well). At any given time, water is extracted from two or more wells, combined, and treated in the associate treatment plant before it is discharged into the public water supply.

1,4-dioxane is a Compound of Interest (COI) for the CERCLA case, and concentrations above the previous standard of 10 ug/L were documented at and near the CPS site, on occasions when a newly installed well was sampled (such as PMP Report #87) and in the October 2015 RIR. The IEC condition is the direct result of the NJDEP issuing the new ISGWQS of 0.4 ug/L. Specifically, given the new ISGWQS, BASF sampled the five USA-PA wells for 1,4-dioxane by EPA SW 846 Method 8270C SIM. 1,4-Dioxane was detected at concentrations that exceeded the ISGWQS in samples collected at PA-6A and PA-7, and was below the ISGWQS in the sample collected at PA-5. As per the IEC guidance, the results were reported to NJDEP via the hotline as an Immediate Environmental Concern (IEC) on April 12, 2016. In addition, the interim response and health department notification were sent on April 18, 2016.

1.4 Summary of IEC Investigations and Mitigation

The IEC Engineered System Response Action Report (PGI, September 2016) provided a timeline for the first six months of actions taken following discovery of the IEC condition on April 12, 2016. The following actions occurred between September 1, 2016 and the present (April 12, 2017):

- September 12 and 13, 2016: 1,4-Dioxane delineation sampling around Perth Amboy supply well PA-6A (a total of 12 existing wells were sampled);

- September 30 through October 12, 2016: Fall PMP Sampling Event including additional samples for 1,4-dioxane delineation (a total of 61 wells were sampled);

- October 24, 2016: Resampled 2 monitoring wells because of data quality issues and sampled Perth Amboy supply well PA-7 (three wells);

- Monthly (at a minimum) sampling events of finished water quality (a total of 9 samples collected after September 1, 2016 and before April 12, 2017) with concurrent sampling of active impacted wells; and

- Samples from unimpacted wells PA-8 (3 samples), PA-9A (one sample) and PA-9B (3 samples) to confirm that they remain unimpacted.

Throughout the 6-month period covered by this report existing well and treatment plant operation were used to maintain 1,4-dioxane concentrations in the finished water at or below the ISGWQS of 0.4 ug/L.

As a result of the plume delineation data, additional possible sources for the southeastern area of the 1,4-dioxane impact were considered. In addition, CMT wells were designed and installed along flow paths from the CPS site to the PA supply wells PA-6A and PA-7 to evaluate long term solutions (i.e., characterize nature and extent of 14D in groundwater to determine why the impact exists and how to remediate it). These additional actions, the sampling events summarized above, and the continued USA-PA well and treatment operation are detailed in this report. Final sections of the report provide conclusions and a discussion of long-term wellhead protection actions.

2.0 IEC SOURCE ASSESSMENT

2.1 CPS/Madison Dissolved Phase Groundwater Plume

The source of the IEC condition is considered to be the CPS dissolved phase groundwater plume. The extent of the volatile organic compound (VOC) plume was previously delineated, as shown on **Figure 4.** Section 1 above described the ongoing plume migration control measures on both the CPS and Madison sites. The semi-annual groundwater sampling and annual reporting that forms the basis of the Performance Monitoring Program (PMP) demonstrates that the VOC plume is stable or declining in volume.

2.2 Other Potential Sources

In addition to the CPS plume, which is the one known 1,4-dioxane IEC source, other contributors may also be present in limited regions of the investigation area. **Figure 5**, reprinted from the CPS/Madison Remedial Investigation Report (PGI, Finalized October 2015), shows that there are several potential contributors to 1,4-dioxane in groundwater. These areas are the subject of ongoing remedial investigation and characterization of the nature and extent of 1,4-dioxane in groundwater, with the goal of developing a long-term approach to meeting the ISGWQS.

3.0 DELINEATION

The extent of 1,4-dioxane was originally projected as shown on figure 2 of the Engineered System Response Action Report (PGI, September 2016). Since that time, additional characterization has shown that the 1,4- dioxane extends further, including the vicinity of PA-5 (the westernmost Perth Amboy supply well) and a small area near the sludge drying beds operated by Perth Amboy as part of the water treatment system. The current delineation is discussed below.

3.1 Sampling Data Summary

Groundwater samples were collected as detailed in the Table 1 analytical sampling summary to delineate the dissolved phase 1,4-dioxane plume. **Figure 6** shows the location of the wells listed on Table 1 except for PA-8, which is shown on **Figure 7.** Sampling included a delineation of the plume proximate to PA-6A (Table 3), a more comprehensive delineation by sampling a subset of monitoring wells within the well field (Table 4), and regularly conducted sampling at the Perth Amboy supply wells and finished water (Table 5) to assess the effectiveness of the well field operation at keeping finished water concentrations at or below the ISGWQS.

3.1.1 <u>Aquifer Characterization Within the Supply Well Area</u>

In order to gain an improved understanding of subsurface geologic conditions and of the distribution of 1,4-dioxane under the influence of pumping at PA-6A and PA-7, BASF is conducting a supplemental investigation near the supply wells. The investigation, being conducted per an NJDEP-approved January 2017 workplan (**Appendix D**), is intended to evaluate vertical distribution of 1,4-dioxane, localized hydraulic gradients near the impacted supply wells, presence and lateral continuity of low hydraulic conductivity units (clay and silt), and pore water concentrations within the low hydraulic conductivity units. To accomplish these goals, continuous cores were collected at four locations (PAWF-1 through PAWF-4 as shown on **Figure 7**) using sonic drilling, identifying and sampling silt and clay units, with Solinst multi-channel CMT® systems installed, with 5-6 sampling ports per CMT installed at depths distributed within the plume. These CMT multi-level wells will be sampled for water quality and water level under different pumping configurations, to characterize the effects of pumping on 1,4-dioxane distribution and hydraulic gradients. This characterization will then be used to determine the scope and feasibility of remediating 1,4-dioxane impacts in-situ.

3.1.2 <u>Evaluate Impacts from Long Term Pumping within the Supply Well Array</u>

One of the goals of the ongoing supply well sampling at PAWF is to evaluate how changes in pumping affects the distribution of the 1,4-dioxane plume. To that end, BASF is coordinating with USA-PA to collect facility samples near the beginning and end of the different pumping configurations as wells cycle on and off. These data are then correlated to those collected at aquifer monitoring locations (monitoring wells and CMTs).

3.2 Data Usability Assessment (DUA)

Table 1 lists the analytical data generated since the Engineered Systems Response Action Report (PGI, September 2016) which is discussed herein to address the IEC condition.

Perth Amboy Well PA-6A Delineation Event

A round of groundwater samples were collected proximate to PA-6A in order to delineate the 1,4-dioxane concentrations previously detected. These samples were analyzed via Method 8270D SIM by Alpha Analytical Laboratories (NELAP Certification #MA935). **Table 3** and **Appendix A** summarize the data and provide copies of the laboratory analytical data, respectively.

DUA information for this sampling event is summarized on **Table 2.** Data quality indicators were acceptable and no additional data flags were required. One field issue was found – glassware indicated a sample from MW-142R but the Chain-of-Custody listed this sample as MW-124R. This transposition was corrected and no data confusion resulted; the laboratory data package was corrected to indicate the sample as "MW-142R."

Fall 2016 1,4-Dioxane Plume Delineation Event

A second round of groundwater samples were collected beginning September 30, 2017 for the dual purpose of the PMP semi-annual monitoring program and to further delineate the 1,4-dioxane plume to the ISGWQS of 0.4 ug/L. Because these samples were part of the ongoing PMP, groundwater samples were analyzed by Lancaster/Eurofins (NELAP Certification #PA011), which is the contract laboratory for this work.

Data usability for the PMP sampling event is addressed in the PMP Annual Report and will not be reiterated herein. **Table 4** summarizes the data and **Appendix B** provides laboratory analytical data. No data quality issues were indicated with this data set except for the known low bias associated with EPA Method 8270C (which was replaced in the IEC sampling events with Method 8270D SIM to eliminate the low bias).

Perth Amboy Well Field Sampling

In addition to these two sampling events within the dissolved phase plume, sampling was regularly conducted at the Perth Amboy supply wells and finished water to assess the effectiveness of system operations as the engineering control. These samples were analyzed via the EPA method for drinking water – Method 522.

Table 5 shows the samples collected at Perth Amboy wells since the Engineered Systems Response Action Report (PGI, September 2016). A total of 10 data packages from 10 sampling events have been generated for Perth Amboy well field sampling. **Table 2** summarizes the DUA evaluation for these sampling events. **Appendix C** contains the laboratory data packages. The following issues were noted:

- Data Package L1636708 (samples collected on November 11, 2016) – Laboratory Control Sample Duplicate had a high percent recovery (135% versus the allowable range of 70-130%). The original Laboratory Control Sample recovery was within limits and the resulting Relative Percent Difference between the duplicate pair were acceptable. No action was required

- Data Package L1700199 (samples collected on January 4, 2017) – Laboratory Control Sample percent recovery was low (60% versus an acceptable range of 70-130%) and the duplicate pair's relative percent difference was out of bounds (35% versus an allowable difference of up to 20%). Based on these values and the implied low bias, a "J" flag was applied to sample data in this package.

Full Data Deliverables forms are submitted with this report as required; the forms address the potable well sampling data only.

4.0 RECEPTORS

4.1 Description of Receptors

The Perth Amboy supply wells as described above are the only known receptors for the CPS site. Completing the receptor evaluation identified no new receptors to be addressed. Below are results of the receptor evaluation, including the updated well search.

4.2 Updated Receptor Evaluation

4.2.1 Well Search

As part of the Receptor Evaluation form (RE) Section D, a well search or well search update is required. The original well search for the current CPS CEA for volatile organic compounds was completed on 1/20/2008 and submitted on 4/25/2008 as part of an addendum to Attachment 4 from the 2007 biennial certification. The historical well search is attached to the RE form submitted with this report. The latest biennial certification was completed in July 2015. An updated well search turns up no new records for potentially potable wells since that time. The well search did indicate a well permit dated 4/7/16 for a non-public well upgradient of the CPS site, but no record or well log has been submitted. An attachment to the RE form submitted with this report contains the permit entry.

For completeness of the receptor evaluation and to ensure the extent of the 1,4-dioxane plume was captured with the original well search, a complete well search of potentially potable wells within a 1 mile radius of the plume midpoint was generated and reviewed. The RE form asks under question 6, whether any private potable or irrigation wells exist within ½ mile of the currently known extent of contamination. Many of the wells only had permit numbers with no record of installation. Of the domestic wells with complete records, further review indicated that the coordinates for the wells were inaccurate and not within ½ mile of the plume. Of the irrigation wells with complete records, review noted use other than irrigation with no pumping equipment installed. The RE form also asks for any potable wells within 500 feet downgradient, 250 feet upgradient. or 500 feet side gradient of the currently known extent of contamination. The only wells that meet these constraints that were identified by the Dataminer well search were public community wells, for which coordinates are redacted for security reasons. The original well search identified six Perth Amboy Municipal Utilities potable wells within 1 mile of the downgradient edge of the plume. These are the Perth Amboy supply wells that are being regularly monitored as discussed in section 1.4 of this report.

NJGeoWeb was used to look at the wellhead protection areas (WHPA) to assess any potential concern from the other public community wells identified in the Dataminer well search. The site does fall into the Tier 2 WHPA for Sayerville public community wells located north of the site which were included in the original well search, but the wells are located greater than 250 feet upgradient of the known extent of contamination. Furthermore, EPA has required monitoring of the public water supply for 1,4-dioxane under their third Unregulated Contaminant Monitoring Rule (UCMR3) monitoring list during 2014 and 2015. Per UCMR3, samples are collected of "finished water" at the "entry point to the distribution system" after any treatment has taken place. The concentrations of 1,4-dioxane in the Sayerville distributed water were below the ISGWQS of 0.4 ug/L during the recent UCMR3 monitoring. As part of the 2017 biennial certification to be completed in July 2017, well records will be requested for these wells to confirm which wells are still active.

4.2.2 Vapor Intrusion

MACTEC (now AMEC-Foster Wheeler) conducted vapor intrusion investigations for the CPS site (onsite VI investigation) and the Madison site (offsite VI investigation) as part of the CERCLA remedial investigation. The VI investigations were conducted in accordance with EPA-approved VI workplans developed by MACTEC, dated May 14, 2009 (onsite) and June 30, 2009 (offsite), respectively. Results of these reports were summarized in the Final RI report submitted to NJDEP in October 2015. As the RE form explains, vapor intrusion is not a concern at the site and the presence of 1,4-dioxane does not trigger additional VI.

4.2.3 Ecological Receptors

A Screening Level Ecological Risk Assessment (SLERA) (AMEC, 2014A) was prepared for OU1 and OU2 of the Site with a final copy submitted in August 2015. The purpose of this SLERA is to assess the potential for site-related chemical Constituents of Potential Ecological Concern (COPECs) in environmental media to adversely affect ecological receptors within OU1 and OU2. As the RE form indicates, a remedial investigation was conducted but no impact to ecological receptors, surface water, or sediment was observed.

4.2.4 Other Potential Receptors

Based on a zoning map of Old Bridge Township that was updated in 2015 and an interview with the Old Bridge Planning office on April 10, 2017, there is a plan for a residential development located east of the PAWF. As it is in the planning stages, it will be assessed as part of the biennial certification to be submitted in July 2017.

5.0 SOURCE CONTROL MEASURES

5.1 Summary of Ongoing Engineered System Response Actions

Blending water sourced from impacted wells (PA-5, 6A and 7) with water sourced from wells not impacted above 0.4 ug/L for 1,4-dioxane (PA-8 and PA-9A/B) is the currently accepted engineered response. Long term options are discussed below in Section 6.

As discussed above, on one occasion the Ranney Collector Well (PA-9A/B) mechanical systems malfunctioned and required that this major source of non-impacted water be taken offline for a brief repair period. Monitoring activities found that finished water exceeded the 0.4 ug/L target for 1,4-dioxane. As a backup measure, Perth Amboy is prepared to purchase water from an external source and blend the water with water sourced from impacted wells to achieve the finished water goal of less than 0.4 ug/L of 1,4-dioxane.

5.2 Blending System Monitoring and Maintenance

Monthly Monitoring

BASF monitors finished water quality on a monthly basis at a minimum, and also conducts a sampling event after pumping configuration changes. In addition to the finished water sampling, active impacted wells are also sampled at the same time. PA wells 9A/B and 8 are not sampled as part of this program because the existing sampling data for these wells confirm that they are outside of the plume.

If an increasing 1,4-dioxane concentration trend becomes apparent, BASF will consider sampling PA-8 and/or 9A/B to confirm that these wells continue to be outside of the 1,4-dioxane plume. Because there are several "non-detect" data points for these wells and sampling at wells between PA-5, 6A and 7 and the Ranney Collector (9A/B) confirmed 1,4-dioxane below 0.4 ug/L, these wells are not included in routine sampling.

BASF continues to collaborate with the USA-PA to optimize operations and maintain finished water at and below the ISGWQS. The findings of these activities will be reported to NJDEP on an interim basis as progress is made and documented in the 2018 Monitoring and Maintenance Plan (MMP).

6.0 SUMMARY AND CONCLUSIONS

6.1 Source Control

The dissolved phase VOC plume is considered to be the source of the IEC attributable to BASF, and the extent of dissolved phase 1,4-dioxane has been delineated as presented above and shown on **Figure 4.** The ongoing CMT well investigation (Section 3.1.1, **Figure 7**) is designed to further refine the aquifer volume contributing to the IEC condition.

6.2 CEA Update

The CPS site has a Classification Exception Area (CEA) for volatile organic compounds. Every two years a remedial action protectiveness/biennial certification is filed for the CEA. The CEA will be revised with the biennial certification conducted in July 2017. 1,4-Dioxane will be added to the CEA and there will be a change in the extent of the CEA to encompass the area indicated by the Fall 2016 sampling event plus the prior sampling south of Tennents Pond.

6.3 Long Term Management Strategy

6.3.1 Monitoring and Maintenance Plan (MMP)

The current plan for long term management of the IEC condition at the PAWF consists of continuing the currently implemented program of blending water from the PAWF wells to achieve finished water with 1,4-dioxane concentrations at or below the ISGWQS of 0.4 ug/L. BASF and USA-PA are working together to develop standard operating procedures and infrastructure upgrades to aid in achieving this objective.

Several monitoring programs are being implemented which will evaluate the ongoing effectiveness of the IEC responses. These include monitoring of:

- Groundwater at and near the CPS site during the PMP, to verify that the existing IRM, and the eventual OU2 CERCLA remedy for the CPS groundwater plume source area, limit influx of 1,4-dioxane to the CPS plume;

- Groundwater within the offsite CPS plume on the Madison and Runyon Watershed properties during the PMP, which will evaluate stability of the 1,4-dioxane plume and its expected decay with time;

- Groundwater at the IEC source (dissolved phase plume in the PAWF) including the PA supply wells and select monitoring wells; and

- Finished (treated) water exiting the Perth Amboy treatment plant.

The proposed monitoring pursuant to the MMP is summarized in **Table 6** and on **Figure 8**. Results of PMP monitoring will continue to be reported to NJDEP on an annual basis. Data collected specifically for the IEC will be transmitted to NJDEP and other stakeholders on a regular basis as collected, with findings summarized in Annual Monitoring and Maintenance Reports (AMM Reports).

Each AMM Report will include a completed IEC Response Action Form and contain an excerpt of this section (MMP). Each AMM Report will list the receptors being monitored and the frequency and type of monitoring/maintenance that was expected to be conducted during the year being covered by the report. In addition, each AMM Report will include a copy of the MMP (this section), with any changes to the original plan highlighted and an explanation for each change provided. The proposed changes to the following year's plan will also be included along with justification for the changes.

6.3.2 Evaluation of Supplemental IEC Response Measures

BASF is implementing characterization steps that will be used to determine the scope and feasibility of remediating 1,4-dioxane impacts in-situ. The objective of such treatment would be to reduce 1,4-dioxane concentrations in the aquifer and thereby improve raw water quality at the supply wells, such that the need for blending is minimized or eliminated.

To evaluate feasibility of such an in-situ treatment, several conditions must be considered, including better understanding of:

- The distribution of 1,4-dioxane in groundwater and any relationship between this distribution and lithology, and

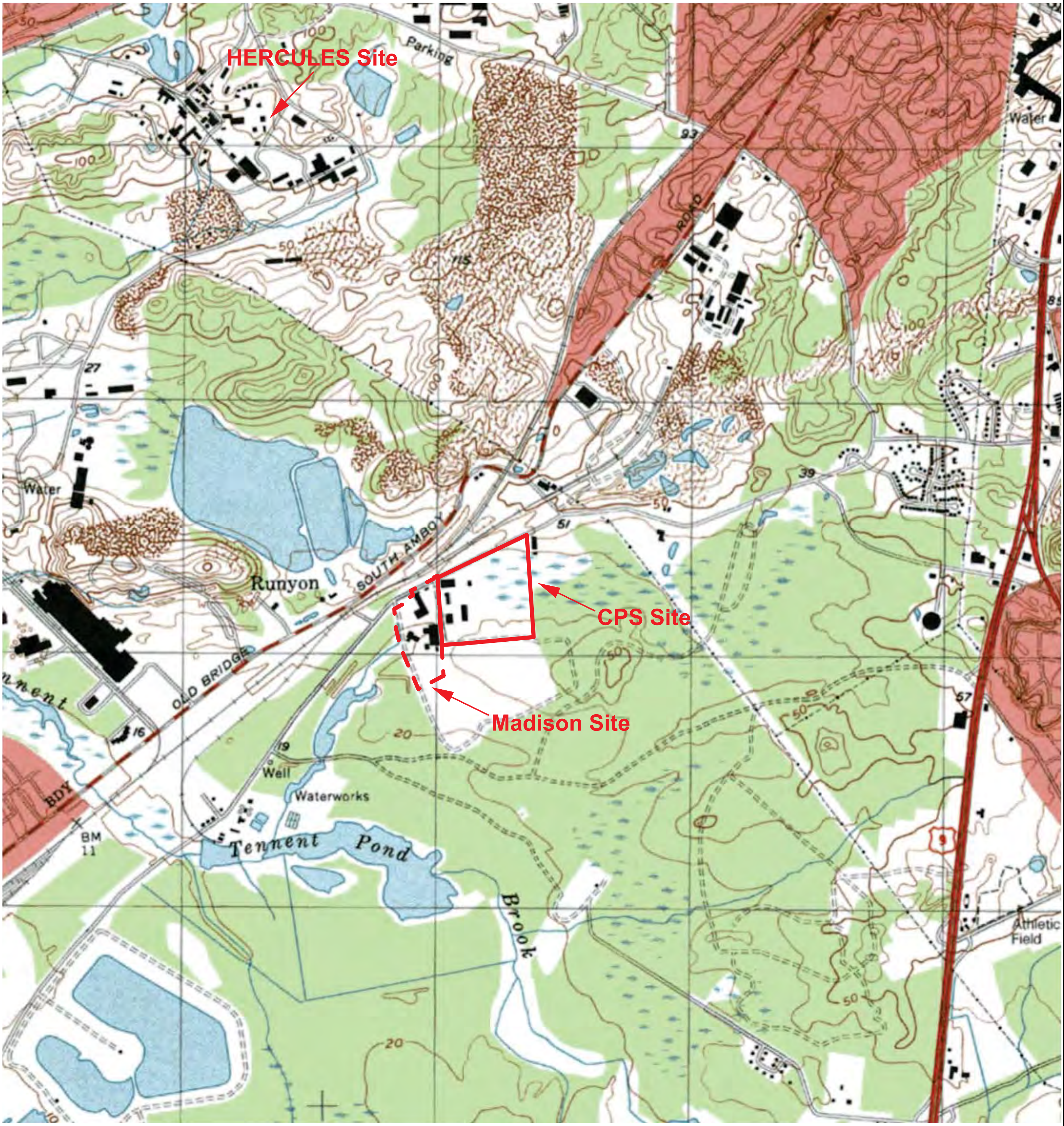
- The relationship between pumping duration and 1,4-dioxane concentrations at and near the supply wells.

BASF is investigating these data gaps via the ongoing CMT investigation discussed in Section 3.1.1. Depending upon findings, one or more CMT wells may be used as sentinels to assess expected influent concentration at PAWF wells.

If a suitable zone is identified in which in-situ treatment appears feasible, BASF may elect to further assess options for conducting a field pilot test. One key determinant of the feasibility of an in-situ approach would be identifying a treatment amendment which would not negatively affect water quality at the supply wells via treatment chemical residuals or by-products. Any pilot test would be conducted only after approval of a pilot test workplan and securing appropriate permits for the work, including an NJDEP Permit-By-Rule approval for the discharge to groundwater.

6.4 Related CERCLA Compliance Activities

The IEC activities documented in this report are conducted with respect to larger scale CERCLA project activities. The CPS/Madison site completed the RI phase in October 2015 with submission of the final RIR. The Feasibility Study phase is in progress. The Feasibility Study will consider protection of PAWF wells to be a priority during remedy selection as part of the CERCLA process. PAWF wells are receptors integral to the Conceptual Site Model (CSM) presented in the 2015 RIR.



SOURCE: USGS QUADRANGLE (PERTH AMBOY, NJ)
Revised 8/23/2011

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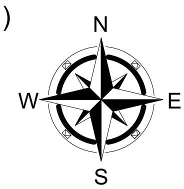
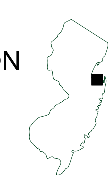


QUADRANGLE LOCATION



PRINCETON GEOSCIENCE, INC.
15 Vandeventer Ave. • Princeton, NJ 08542
tel: 609.279.0008 • www.princetongeoscience.com

SCALE: 1" = 2000'	DATE: 8/23/2011
PREPARED BY: LIC	CHECKED BY: JLP
PROJECT NO.: 08104	FILE NAME: SiteLocation

FIGURE 1
SITE LOCATION MAP

CPS/MADISON SUPERFUND SITE
OLD BRIDGE, NEW JERSEY

PRINCETON GEOSCIENCE, INC.
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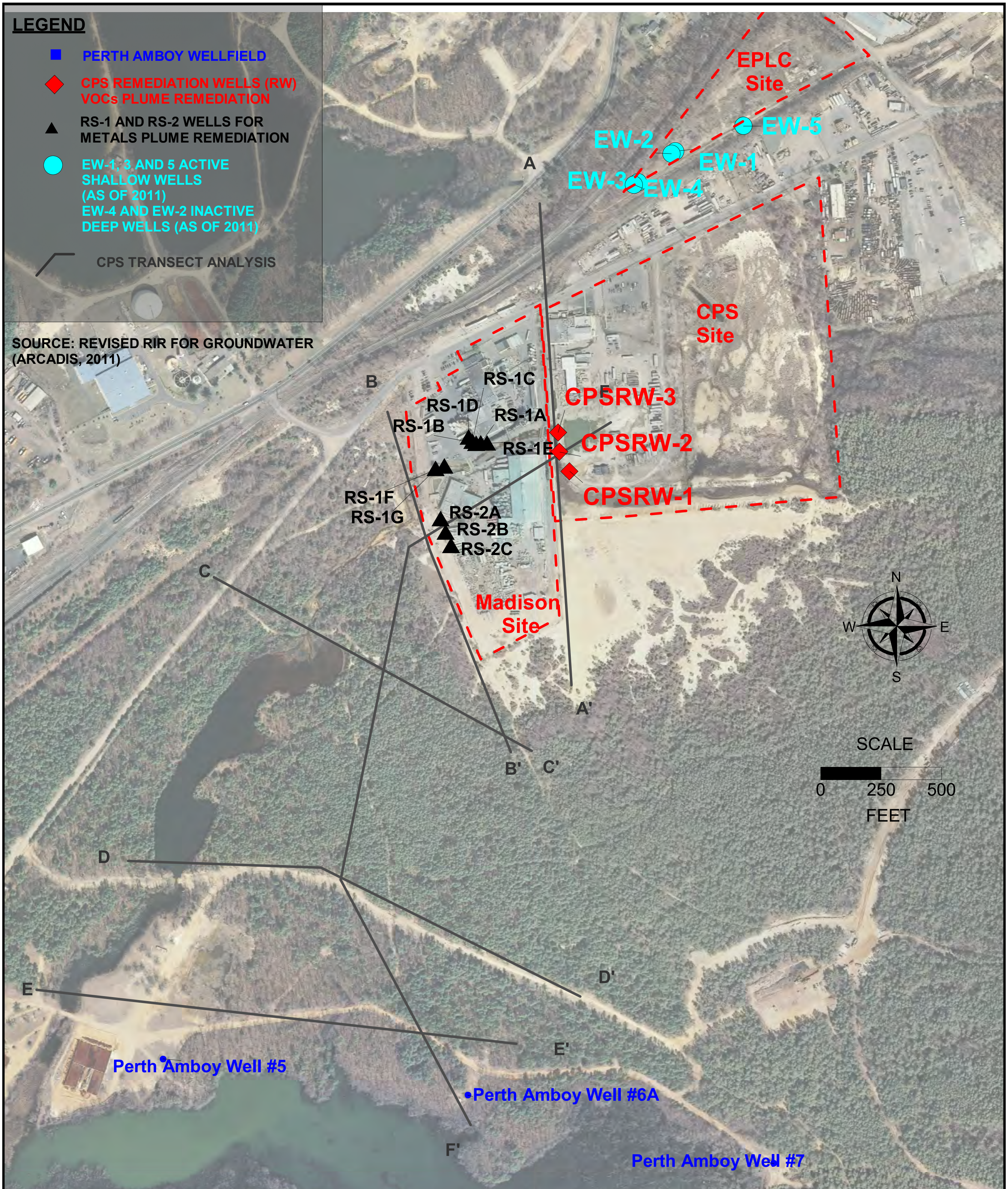
SCALE: See Map	DATE: 9/2/2011	FIGURE 2 SITE PLAN
PREPARED BY: LIC	CHECKED BY: JLP	
PROJECT NO.: 08104	FILE NAME: Proposed RA Areas - CPS Site	CPS/MADISON SUPERFUND SITE OLD BRIDGE, NEW JERSEY



PRINCETON GEOSCIENCE, INC. 15 Vandeventer Ave. • Princeton, NJ 08542 tel: 609.279.0008 • www.princetongeoscience.com	SCALE: 1" = 450'	DATE: 4/7/2017	FIGURE 3 CURRENT EXTRACTION AND SUPPLY WELLS
	PREPARED BY: L.C./T.H.	CHECKED BY: J.P.	
	PROJECT NO.: 08104	FILE NAME: Current PW	CPS/MADISON SUPERFUND SITE OLD BRIDGE, NEW JERSEY

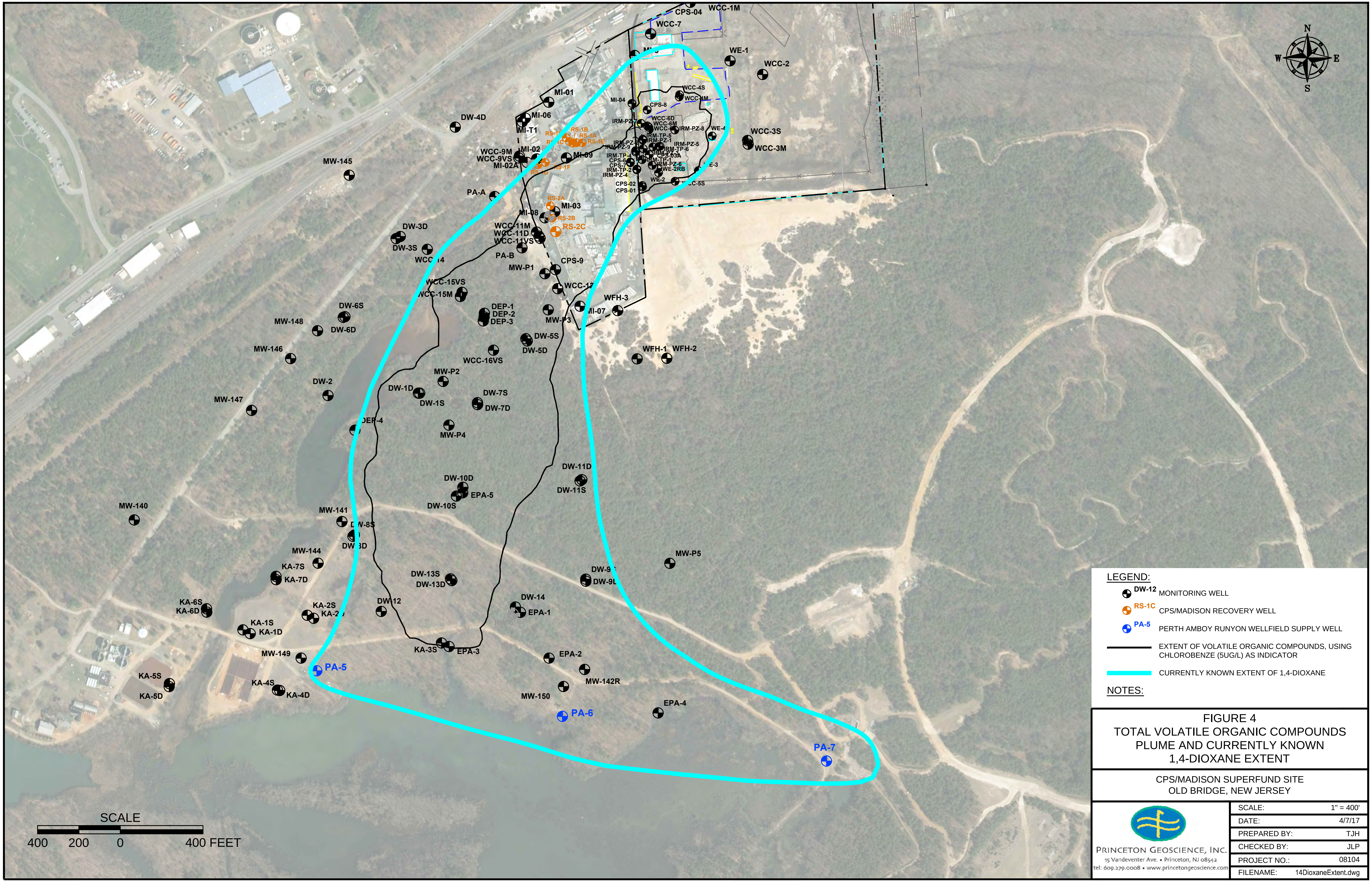


FIGURE 4
TOTAL VOLATILE ORGANIC COMPOUNDS PLUME AND CURRENTLY KNOWN 1,4-DIOXANE EXTENT

CPS/MADISON SUPERFUND SITE
OLD BRIDGE, NEW JERSEY

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SCALE:	1" = 400'
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CHECKED BY:	JLP
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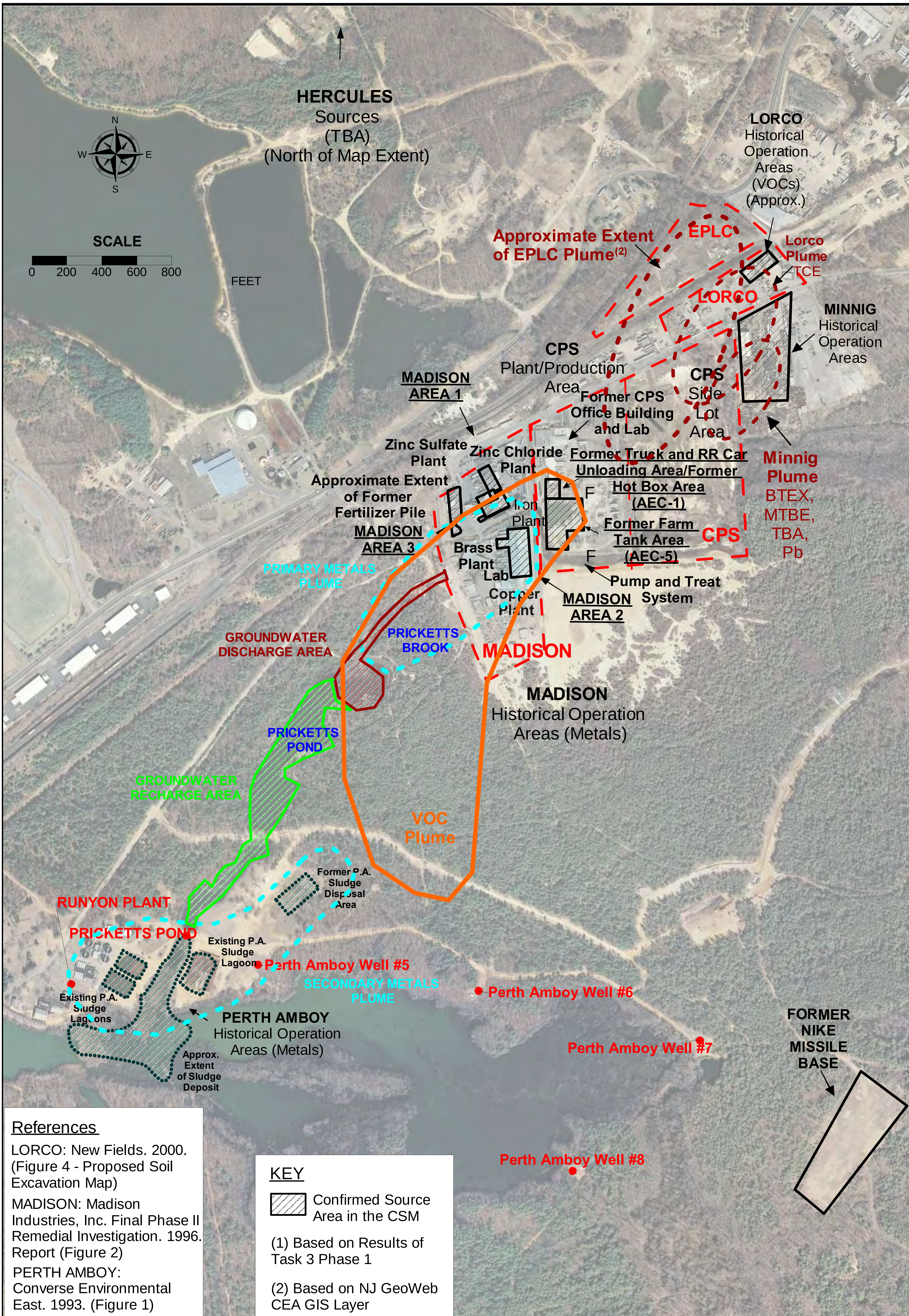


References

LORCO: New Fields. 2000. (Figure 4 - Proposed Soil Excavation Map)

MADISON: Madison Industries, Inc. Final Phase II Remedial Investigation. 1996. Report (Figure 2)

PERTH AMBOY: Converse Environmental East. 1993. (Figure 1)

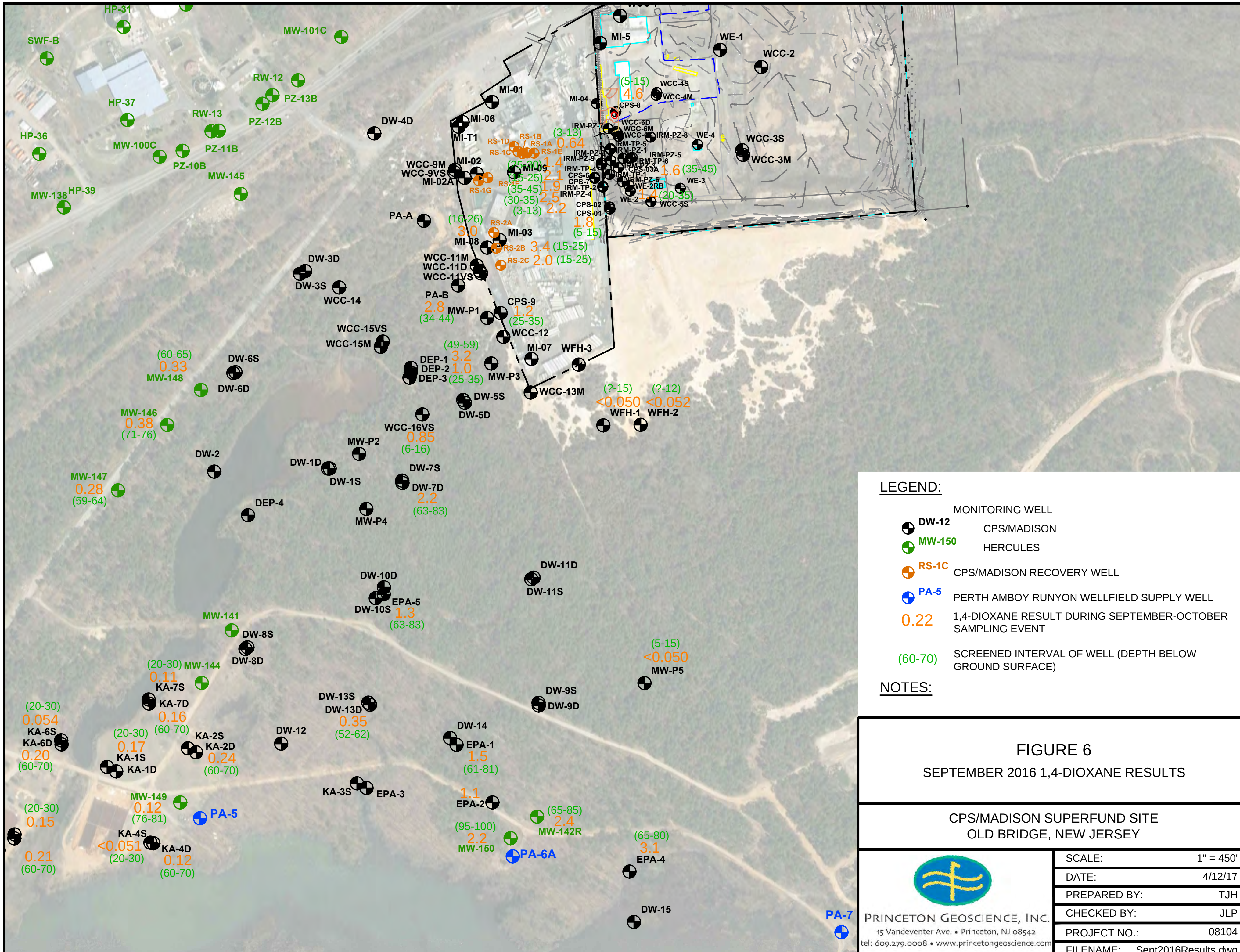
KEY

Confirmed Source Area in the CSM

(1) Based on Results of Task 3 Phase 1

(2) Based on NJ GeoWeb CEA GIS Layer

PRINCETON GEOSCIENCE, INC. 15 Vandeventer Ave. • Princeton, NJ 08542 tel: 609.279.0008 • www.princetongeoscience.com	SCALE: See Map	DATE: 4/10/2017	FIGURE 5 OTHER POTENTIAL SOURCES
	PREPARED BY: LC / TH	CHECKED BY: JP	
	PROJECT NO.: 08104	FILE NAME: Sources	CPS/MADISON SUPERFUND SITE OLD BRIDGE, NEW JERSEY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SWF-B
MW-101C
RW-12
PZ-13B
HP-37
RW-13
PZ-12B
HP-36
MW-100C
PZ-11B
PZ-10B
MW-145
MW-138
HP-39
MI-5
WE-1
WCC-2
MI-01
MI-06
MI-T1
DW-4D
(5-15)
4.6
WCC-4S
WCC-4M
MI-04
CPS-8
WCC-6D
WCC-6M
IRM-PZ-8
WE-4
WCC-3S
WCC-3M
RS-1D
RS-1B
RS-1A
RS-1C
RS-1E
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WCC-9M
WCC-9VS
MI-02A
MI-02
MI-09
RS-1G
IRM-PZ-5
IRM-TP-6
1.6 (35-45)
WE-3
WE-2RB
WE-2
1.4 (20-35)
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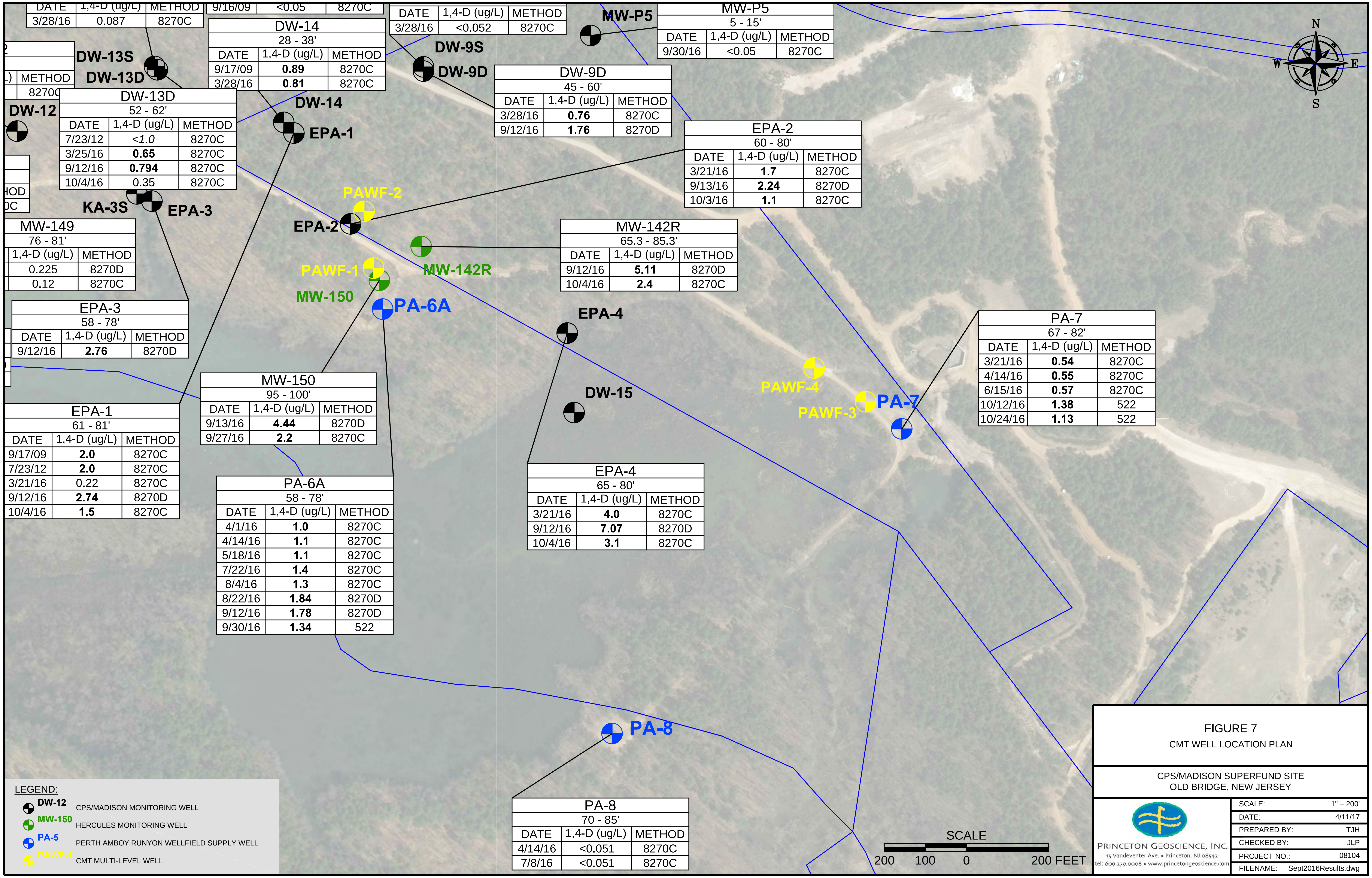
3.0
RS-2A
MI-03
MI-08
RS-2B
3.4 (15-25)
RS-2C
2.0 (15-25)
DW-3D
DW-3S
WCC-14
WCC-11M
WCC-11D
WCC-11VS
PA-B
2.8
(34-44)
MW-P1
CPS-9
1.2
(25-35)
WCC-12
WCC-15VS
WCC-15M
(49-59)
DEP-1 3.2
DEP-2 1.0
DEP-3 (25-35)
MW-P3
MI-07
WFH-3
WCC-13M
(60-65)
0.33
MW-148
DW-6S
DW-6D
DW-5S
DW-5D
(?-15)
<0.050
WFH-1
(?-12)
<0.052
WFH-2
MW-146
0.38
(71-76)
WCC-16VS
0.85
(6-16)
MW-P2
DW-2
DW-1D
DW-1S
DW-7S
DW-7D
2.2
(63-83)
MW-147
0.28
(59-64)
DEP-4
MW-P4
DW-11D
DW-11S
DW-10D
EPA-5
DW-10S
1.3
(63-83)
MW-141
DW-8S
DW-8D
(5-15)
<0.050
MW-P5
(20-30)
MW-144
0.11
KA-7S
KA-7D
0.16
(60-70)
(20-30)
0.054
KA-6S
KA-6D
0.20
(60-70)
(20-30)
0.17
KA-1S
KA-1D
KA-2S
KA-2D
0.24
(60-70)
DW-12
DW-13S
DW-13D
0.35
(52-62)
DW-9S
DW-9D
DW-14
EPA-1
1.5
(61-81)
KA-3S
EPA-3
1.1
EPA-2
(65-85)
2.4
MW-142R
MW-149
0.12
(76-81)
PA-5
(20-30)
0.15
KA-4S
<0.051
(20-30)
KA-4D
0.12
(60-70)
0.21
(60-70)
(95-100)
2.2
MW-150
PA-6A
(65-80)
3.1
EPA-4
DW-15
PA-7
LEGEND:
MONITORING WELL
DW-12 CPS/MADISON
MW-150 HERCULES
RS-1C CPS/MADISON RECOVERY WELL
PA-5 PERTH AMBOY RUNYON WELLFIELD SUPPLY WELL
0.22 1,4-DIOXANE RESULT DURING SEPTEMBER-OCTOBER SAMPLING EVENT
(60-70) SCREENED INTERVAL OF WELL (DEPTH BELOW GROUND SURFACE)
NOTES:
FIGURE 6
SEPTEMBER 2016 1,4-DIOXANE RESULTS
CPS/MADISON SUPERFUND SITE
OLD BRIDGE, NEW JERSEY
PRINCETON GEOSCIENCE, INC.
15 Vandeventer Ave. • Princeton, NJ 08542
tel: 609.279.0008 • www.princetongeoscience.com
SCALE: 1" = 450'
DATE: 4/12/17
PREPARED BY: TJH
CHECKED BY: JLP
PROJECT NO.: 08104
FILENAME: Sept2016Results.dwg



DATE	1,4-D (ug/L)	METHOD
3/28/16	0.087	8270C

9/16/09	<0.05	8270C

DATE	1,4-D (ug/L)	METHOD
3/28/16	<0.052	8270C

MW-P5		
5 - 15'		
DATE	1,4-D (ug/L)	METHOD
9/30/16	<0.05	8270C

DW-14		
28 - 38'		
DATE	1,4-D (ug/L)	METHOD
9/17/09	**0.89**	8270C
3/28/16	**0.81**	8270C

2	
L)	METHOD
	8270C

DW-13D		
52 - 62'		
DATE	1,4-D (ug/L)	METHOD
7/23/12	*<1.0*	8270C
3/25/16	**0.65**	8270C
9/12/16	**0.794**	8270C
10/4/16	0.35	8270C

DW-9D		
45 - 60'		
DATE	1,4-D (ug/L)	METHOD
3/28/16	**0.76**	8270C
9/12/16	**1.76**	8270D

EPA-2		
60 - 80'		
DATE	1,4-D (ug/L)	METHOD
3/21/16	**1.7**	8270C
9/13/16	**2.24**	8270D
10/3/16	**1.1**	8270C

HOD
0C

MW-149		
76 - 81'		
1,4-D (ug/L)	METHOD	
0.225	8270D	
0.12	8270C	

MW-142R		
65.3 - 85.3'		
DATE	1,4-D (ug/L)	METHOD
9/12/16	**5.11**	8270D
10/4/16	**2.4**	8270C

EPA-3		
58 - 78'		
DATE	1,4-D (ug/L)	METHOD
9/12/16	**2.76**	8270D

PA-7		
67 - 82'		
DATE	1,4-D (ug/L)	METHOD
3/21/16	**0.54**	8270C
4/14/16	**0.55**	8270C
6/15/16	**0.57**	8270C
10/12/16	**1.38**	522
10/24/16	**1.13**	522

MW-150		
95 - 100'		
DATE	1,4-D (ug/L)	METHOD
9/13/16	**4.44**	8270D
9/27/16	**2.2**	8270C

EPA-1		
61 - 81'		
DATE	1,4-D (ug/L)	METHOD
9/17/09	**2.0**	8270C
7/23/12	**2.0**	8270C
3/21/16	0.22	8270C
9/12/16	**2.74**	8270D
10/4/16	**1.5**	8270C

EPA-4		
65 - 80'		
DATE	1,4-D (ug/L)	METHOD
3/21/16	**4.0**	8270C
9/12/16	**7.07**	8270D
10/4/16	**3.1**	8270C

PA-6A		
58 - 78'		
DATE	1,4-D (ug/L)	METHOD
4/1/16	**1.0**	8270C
4/14/16	**1.1**	8270C
5/18/16	**1.1**	8270C
7/22/16	**1.4**	8270C
8/4/16	**1.3**	8270C
8/22/16	**1.84**	8270D
9/12/16	**1.78**	8270D
9/30/16	**1.34**	522

PA-8		
70 - 85'		
DATE	1,4-D (ug/L)	METHOD
4/14/16	<0.051	8270C
7/8/16	<0.051	8270C

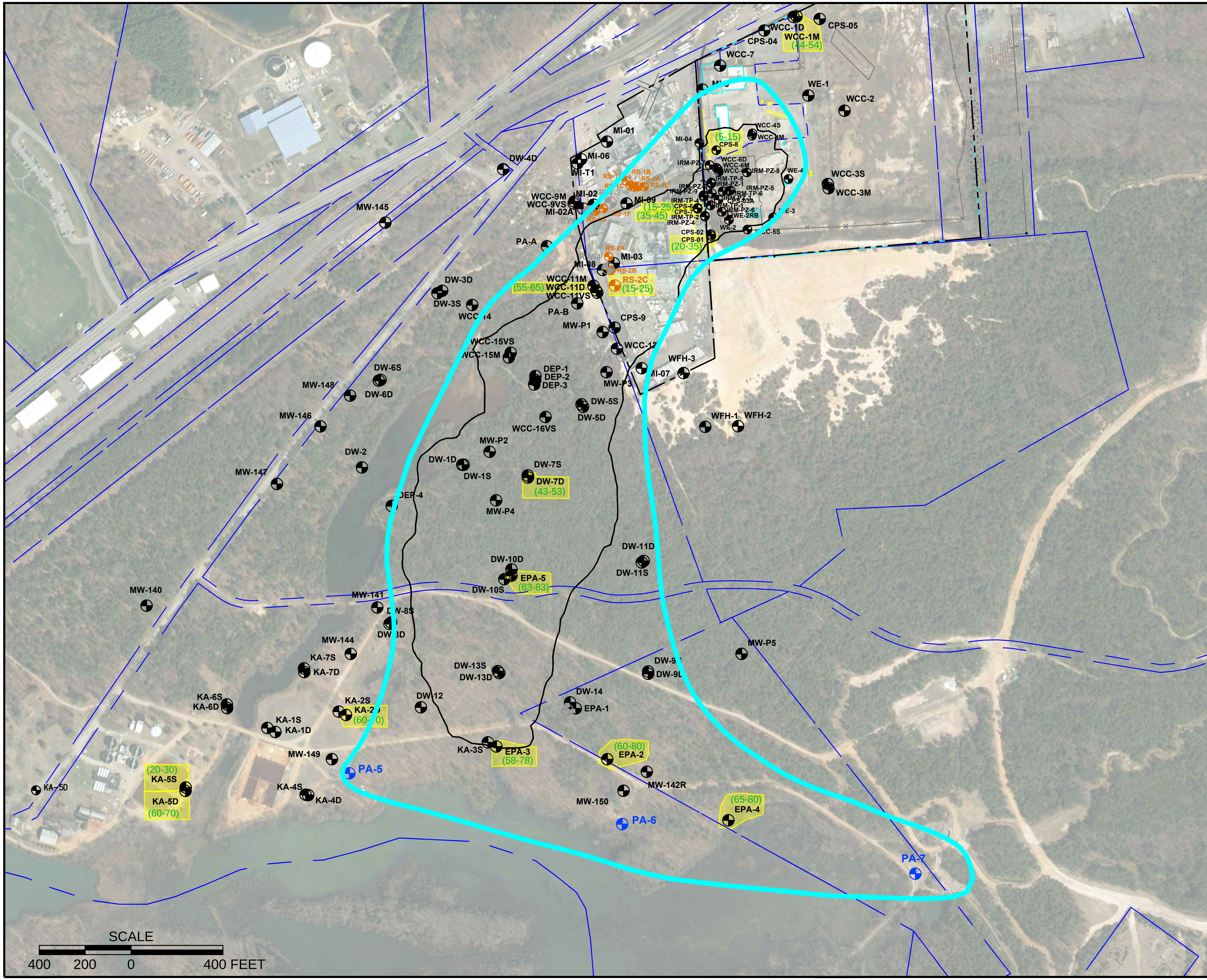
FIGURE 7

CMT WELL LOCATION PLAN

CPS/MADISON SUPERFUND SITE
OLD BRIDGE, NEW JERSEY

PRINCETON GEOSCIENCE, INC.
15 Vandeventer Ave. • Princeton, NJ 08542
tel: 609.279.0008 • www.princetongeoscience.com

SCALE:	1" = 200'
DATE:	4/11/17
PREPARED BY:	TJH
CHECKED BY:	JLP
PROJECT NO.:	08104
FILENAME:	Sept2016Results.dwg



LEGEND:

DW-12	MONITORING WELL
RS-1C	CPS/MADISON RECOVERY WELL
PA-5	PERTH AMBOY RUNYON WELLFIELD SUPPLY WELL
PA-5	PROPOSED MONITORING WELL
DW-7D (43-53)	WELL SELECTED FOR PMP SAMPLING
	EXTENT OF VOLATILE ORGANIC COMPOUNDS, USING CHLOROBENZE (5UG/L) AS INDICATOR
	CURRENTLY KNOWN EXTENT OF 1,4-DIOXANE

NOTES:

FIGURE 8

UPDATED PMP MONITORING PLAN

CPS/MADISON SUPERFUND SITE
OLD BRIDGE, NEW JERSEY

PRINCETON GEOSCIENCE, INC.
15 Vandeventer Ave. • Princeton, NJ 08542
tel: 609.279.0008 • www.princetongeoscience.com

SCALE:	1" = 400'
DATE:	4/12/17
PREPARED BY:	TJH
CHECKED BY:	JLP
PROJECT NO.:	08104
FILENAME:	14DioxaneExtent.dwg

Table 1: Analytical Sample Summary Table
CPS/Madison Site OU1 - Groundwater

Purpose	Well Name	Screened Interval	Sample Date	Analyte	Method	Analyte	Method	Data Package
PA-6A assessment	EPA-3	58-78 ft	9/12/2016	1,4-Dioxane	8270D SIM			Alpha L1628611
	EPA-1	61-81 ft	9/12/2016	1,4-Dioxane	8270D SIM			
	DW-13D	52-62 ft	9/12/2016	1,4-Dioxane	8270D SIM			
	DW-9D	45-60 ft	9/12/2016	1,4-Dioxane	8270D SIM			
	EPA-4	65-80 ft	9/12/2016	1,4-Dioxane	8270D SIM			
	PA-6	58-78 ft	9/12/2016	1,4-Dioxane	8270D SIM			
	MW-142R	65.3-85.3 ft	9/12/2016	1,4-Dioxane	8270D SIM			
	MW-150	95-100 ft	9/13/2016	1,4-Dioxane	8270D SIM			
	EPA-2	60-80 ft	9/13/2016	1,4-Dioxane	8270D SIM			
	MW-149	76-81 ft	9/13/2016	1,4-Dioxane	8270D SIM			
	KA-6D	60-70 ft	9/13/2016	1,4-Dioxane	8270D SIM			
	KA-5D	60-70 ft	9/13/2016	1,4-Dioxane	8270D SIM			
Fall Sampling	CPS-1	20-35 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-91
	CPS-3A	35-45 ft	10/6/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	CPS-6	15-25 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	CPS-7	35-45 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	CPS-8	5-15 ft	10/6/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	CPS-9	25-35 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	WFH-1	Unknown-15 ft	10/24/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-94
	WFH-2	Unknown -12 ft	10/12/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-93
	DEP-1	49-59 ft	10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-90
	DEP-2	25-35 ft	10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DEP-2-MS		10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DEP-2MSD		10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DW-7D	43-53 ft	10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DW-13D	52-62 ft	10/4/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-89
	EPA-1	61-81 ft	10/4/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-1-66.0'	66 ft	9/30/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-88
	EPA-1-71.0'	71 ft	9/30/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-1-76.0'	76 ft	9/30/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-2	60-80 ft	10/3/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-89
	EPA-2-65.0'	65 ft	10/3/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-2-70.0'	70 ft	10/3/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-2-75.0'	75 ft	10/3/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-4	65-80 ft	10/4/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-4-duplicate		10/4/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-4-67.5'	67.5 ft	9/29/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-88
	EPA-4-72.5'	72.5 ft	9/29/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-4-77.5'	77.5 ft	9/29/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	EPA-5	63-83 ft	10/24/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-94
	IRM-PZ-4	3-13 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-91
	IRM-PZ-9	3-13 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	IRM-TP-2	30-35 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	IRM-TP-4	25-30 ft	10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	KA-2D	60-70 ft	10/4/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-89
	MI-08	16.2-26.2 ft	10/6/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-91
	PA-B	34-44 ft	10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-90
	RS-2B	15-25 ft	10/6/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-91
	RS-2C	15-25 ft	10/6/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	WCC-16VS	6-16 ft	10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-90
	WE-2RB	20-35 ft	10/6/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-91
	MW-P5	Unknown-15 ft	9/30/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-88
	MW-140	65-85 ft	9/28/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-87
	MW-146	68-76 ft	9/28/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	MW-147	59-64 ft	9/28/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	MW-148	60-65 ft	9/28/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	MW-149	76-81 ft	9/27/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	MW-150	95-100 ft	9/27/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	MW-142R	65.3-85.3 ft	10/3/16-10/4/16	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-89
	KA-1S	20-30 ft	10/4/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	KA-4S	20-30 ft	10/12/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-93
	KA-4D	60-70 ft	10/12/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	KA-5S	20-30 ft	10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-89
	KA-5D	60-70 ft	10/5/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	KA-6S	20-30 ft	10/12/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-93
	KA-6D	60-70 ft	10/12/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	KA-7S	20-30 ft	10/12/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	KA-7D	60-70 ft	10/12/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DR-3S	Unknown to 31 ft	10/10/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-92
	DR-3D	Unknown to 65 ft	10/10/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DR-4S	Unknown to 27 ft	10/10/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DR-4D	Unknown to 65 ft	10/10/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DR-5S	Unknown to 30 ft	10/11/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	DR-5D	Unknown to 90 ft	10/11/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	
	PA-7	67-82 ft	10/24/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-94
	Field Blank		10/7/2016	1,4-Dioxane	8270C SIM	VOCs	8260B with 25 mL purge	CPS-91
	Trip Blank		10/7/2017			VOCs	8260B with 25 mL purge	

Table 1: Analytical Sample Summary Table
CPS/Madison Site OU1 - Groundwater

Purpose	Well Name	Screened Interval	Sample Date	Analyte	Method	Analyte	Method	Data Package
	PA-5	50-80 ft	12/12/2016	1,4-Dioxane	EPA 522			Alpha L1640339
			3/7/2017	1,4-Dioxane	EPA 522			Alpha L1706955
			3/23/2017	1,4-Dioxane	EPA 522			Alpha L1709005
	PA-6A	58-78 ft	9/12/2016	1,4-Dioxane	8270D SIM			Alpha L1628611
			9/30/2016	1,4-Dioxane	EPA 522			Alpha L1631209
			12/12/2016	1,4-Dioxane	EPA 522			Alpha L1640339
			1/4/2017	1,4-Dioxane	EPA 522			Alpha L1700199
			3/15/2017	1,4-Dioxane	EPA 522			Alpha L1707883
			3/23/2017	1,4-Dioxane	EPA 522			Alpha L1709005
	PA-7	67-82 ft	10/12/2016	1,4-Dioxane	EPA 522			Alpha L1632764
			10/24/2016	1,4-Dioxane	EPA 522			Alpha L1634342
			11/11/2016	1,4-Dioxane	EPA 522			Alpha L1636708
			12/12/2016	1,4-Dioxane	EPA 522			Alpha L1640339
			1/23/2017	1,4-Dioxane	EPA 522			Alpha L1702206
			3/15/2017	1,4-Dioxane	EPA 522			Alpha L1707883
	PA-8	70-85 ft	12/12/2016	1,4-Dioxane	EPA 522			Alpha L1640339
			1/4/2017	1,4-Dioxane	EPA 522			Alpha L1700199
			3/7/2017	1,4-Dioxane	EPA 522			Alpha L1706955
	PA-9B	61 to 62 ft*	9/30/2016	1,4-Dioxane	EPA 522			Alpha L1631209
			10/12/2016	1,4-Dioxane	EPA 522			Alpha L1632764
	PA-9A	61 to 62 ft*	1/4/2017	1,4-Dioxane	EPA 522			Alpha L1700199
		Sample Name						
	Finished Water	FINISHED (6+9B)	9/30/2016	1,4-Dioxane	EPA 522			Alpha L1631209
		PA-FINISHED (7+9B)	10/12/2016	1,4-Dioxane	EPA 522			Alpha L1632764
		FINISHED (7+9B)	11/11/2016	1,4-Dioxane	EPA 522			Alpha L1636708
		FINISHED	12/12/2016	1,4-Dioxane	EPA 522			Alpha L1640339
		FINISHED (6A,8,9A)	1/4/2017	1,4-Dioxane	EPA 522			Alpha L1700199
		FINISHED (7,8,9A)	1/23/2017	1,4-Dioxane	EPA 522			Alpha L1702206
		PA-FINISHED (5+8)	3/7/2017	1,4-Dioxane	EPA 522			Alpha L1706955
		PA-FINISHED (6,7,9A)	3/15/2017	1,4-Dioxane	EPA 522			Alpha L1707883
		PA-FINISHED (5,6,9B)	3/23/2017	1,4-Dioxane	EPA 522			Alpha L1709005

*As referenced in a 2008 Well Search by BASF

Table 2: Data Usability Assessment - Potable Well IEC Case
CPS/Madison Site OU1 - Groundwater

			Results (ug/L)		Surrogate Recovery	LCS (% Recovery)	Lab Duplicates* LCSD (% Recovery)	RPD %	Matrix Spike (If Collected) MS (% Recovery)	MSD (% Recovery)	RPD %	Field Dup (if collected) Field Dup (ug/L)	RPD %	Method Blanks	Lab Instrument Blanks	Field Equipment Blanks
Data Usability Goals					15 - 110%[a]	70 - 130%	70 - 130%	20%	70 - 130%	70 - 130%	30%	Result (ug/L)	30%	No Target Compounds Detected at QL		
Sample Names (Field ID)	Sample Date	Data Package	8270D	522												
EPA-3-091216	9/12/2016	Alpha L1628611	**2.76**		28	102	105	3	Not Collected for this Sample Set			Not Collected for this Sample Set		ND @ 0.15 ug/L	Not Analyzed	None Collected for this Sample Set
EPA-1-091216	9/12/2016		**2.74**		31											
DW-13D-091216	9/12/2016		**0.794**		27											
DW-9D-091216	9/12/2016		**1.76**		30											
EPA-4-091216	9/12/2016		**7.07**		28											
PA-6-091216	9/12/2016		**1.78**		28											
MW-142R-091216	9/12/2016		**5.11**		30											
MW-150-091316	9/13/2016		**4.44**		28											
EPA-2-091316	9/13/2016		**2.24**		28											
MW-149-091316	9/13/2016		0.225		29											
KA-6D-091316	9/13/2016		0.347		28											
KA-5D-091316	9/13/2016		**0.411**		29											
PA-6-093016	9/30/2016	Alpha L1631209		**1.34**	83	85	76	13	Not Collected for this Sample Set			Not Collected for this Sample Set		ND @ 0.100 ug/L	Not Analyzed	None Collected for this Sample Set
PA-9B-093016	9/30/2016			ND (0.096)	70											
Finished (6+9B)-093016	9/30/2016			0.332	76											
PA-7-1012016	10/12/2016	Alpha L1632764		**1.38**	101	77	83	8	100	No Duplicate for this Sample Set		1.54 (PA-7)	11	ND @ 0.1 ug/L	Not Analyzed	None Collected for this Sample Set
PA-9B-1012016	10/12/2016			ND (0.1)	107											
PA-FINISHED (7+9B)-1012016	10/12/2016			**0.52**	101											
PA-7-1024016	10/24/2016	Alpha L1634342		**1.13**	129	77	84	9	Not Collected for this Sample Set			Not Collected for this Sample Set		ND @ 0.15 ug/L	Not Analyzed	Not Collected for this Sample Set
PA-7-111116	11/11/2016	Alpha L1636708		**1.32**	121	116	**135**	12	Not Collected for this Sample Set			Not Collected for this Sample Set		ND @ 0.150 ug/L	Not Analyzed	Not Collected for this Sample Set
Finished (7+9B)-111116	11/11/2016			**0.495**	116									ND @ 0.100 ug/L		
FINISHED-121216	12/12/2016	Alpha L1640339		**0.916**	110	113	109	6	110	No Duplicate for this Sample Set		Not Collected for this Sample Set		ND @ 0.100 ug/L	Not Analyzed	Not Collected for this Sample Set
PA-5-121216	12/12/2016			0.361	84		LD[c]: 111%	11						ND @ 0.100 ug/L		
PA-6-121216	12/12/2016			**1.95**	111											
PA-7-121216	12/12/2016			**1.44**	115											
PA-8-121216	12/12/2016			ND (0.102)	108											
PA-9A-010417	1/4/2017	Alpha L1700199		ND (0.102) J	88	**60**	88	**35**	82	No Duplicate for this Sample Set		Not Collected for this Sample Set		ND (0.100)	Not Analyzed	Not Collected for this Sample Set
PA-8-010417	1/4/2017			ND (0.106) J	86											
PA-6A0010417	1/4/2017			**1.53** J	85											
Finished(6A,8,9A)-010417	1/4/2017			0.343 J	91											
CPS-TP-0BMUA-012317	1/23/2017	Alpha L170226		ND (0.100)	114	94	101	5	126	No Duplicate for this Sample Set		Not Collected for this Sample Set		ND @ 0.100 ug/L	Not Analyzed	Not Collected for this Sample Set
PA-70012317	1/23/2017			**1.29**	103											
Finished (7,8,9A)-012317	1/23/2017			0.376	109											
PA-Finished (5+8)-030717	3/7/2017	Alpha L1706955		0.118	98	98	90	6	88	No Duplicate for this Sample Set		Not Collected for this Sample Set		ND @ 0.100 ug/L	Not Analyzed	Not Collected for this Sample Set
PA-5-030717	3/7/2017			0.4	104		LD[c]: 104	13								
PA-8-030717	3/7/2017			ND (0.102)	101											
PA-7-031517	3/15/2017	Alpha L1707883		**1.24**	91	77	83	5	Not Collected for this Sample Set			Not Collected for this Sample Set		ND @ 0.100 ug/L	Not Analyzed	Not Collected for this Sample Set
PA-6-031517	3/15/2017			**1.79**	101											
PA-Finished(6,7,9A)-031517	3/15/2017			**0.914**	108											
PA-6-032317	3/23/2017	Alpha L1709005		**1.53**	95	104	86	14	106	106	0	1.58 (PA-6)	3	ND @ 0.100 ug/L	Not Analyzed	Not Collected for this Sample Set
PA-6-032317-FD	3/23/2017			**1.58**	93											
PA-Finished(5,6,9B)-032317	3/23/2017			0.391	92											
PA-5-032317	3/23/2017			**0.411**	92											

[a] These QA/QC limits are specified for Method 8270D; they are not part of the site-specific QAPP. Limits in red text are from the site-specific QAPP.
8270D - Full method reference is Extraction via EPA 3510C and analysis via EPA 270D-SIM using a dueterated surrogate (1,4-Dioxane-d8) to calculate a sample-specific correction factor
*For method 8270D-SIM, the corrected result is reported

2.24	Result exceeds the Interim Specific Ground Water Quality Standard of 0.4 ug/L for New Jersey

[b]RPD is calculated on the corrected %recovery, not on the raw values
[c]Laboratory performed a duplicate analysis on this sample (Lab duplicate, not a field duplicate)

Table 3: September 2016 PA-6A Delineation Sampling Results
CPS/Madison Site OU1 - Groundwater

Well	Sample Name	Lab Sample ID	Sample Date	Sample Time	Analytical Method Name	Dilution Factor	Chemical Name	Result Value	Result Unit	Reporting Detection Limit	Method Detection Limit
EPA-3	EPA-3-091216	L1628611-01	9/12/2016	8:41	SW8270D-SIM	1	1,4-Dioxane	2.76	ug/l	0.142	0.0708
EPA-1	EPA-1-091216	L1628611-02	9/12/2016	9:36	SW8270D-SIM	1	1,4-Dioxane	2.74	ug/l	0.142	0.0708
DW-13D	DW-13D-091216	L1628611-03	9/12/2016	10:30	SW8270D-SIM	1	1,4-Dioxane	0.794	ug/l	0.142	0.0708
DW-9D	DW-9D-091216	L1628611-04	9/12/2016	11:13	SW8270D-SIM	1	1,4-Dioxane	1.76	ug/l	0.144	0.0721
EPA-4	EPA-4-091216	L1628611-05	9/12/2016	12:22	SW8270D-SIM	1	1,4-Dioxane	7.07	ug/l	0.144	0.0721
PA-6	PA-6-091216	L1628611-06	9/12/2016	14:49	SW8270D-SIM	1	1,4-Dioxane	1.78	ug/l	0.144	0.0721
MW-142R	MW-142R-091216	L1628611-07	9/12/2016	15:16	SW8270D-SIM	1	1,4-Dioxane	5.11	ug/l	0.144	0.0721
MW-150	MW-150-091316	L1628611-08	9/13/2016	10:26	SW8270D-SIM	1	1,4-Dioxane	4.44	ug/l	0.144	0.0721
EPA-2	EPA-2-091316	L1628611-09	9/13/2016	11:33	SW8270D-SIM	1	1,4-Dioxane	2.24	ug/l	0.142	0.0708
MW-149	MW-149-091316	L1628611-10	9/13/2016	12:58	SW8270D-SIM	1	1,4-Dioxane	0.225	ug/l	0.142	0.0708
KA-6D	KA-6D-091316	L1628611-11	9/13/2016	13:43	SW8270D-SIM	1	1,4-Dioxane	0.347	ug/l	0.142	0.0708
KA-5D	KA-5D-091316	L1628611-12	9/13/2016	14:26	SW8270D-SIM	1	1,4-Dioxane	0.411	ug/l	0.142	0.0708

Table 4
Fall 2016 Groundwater Data

CPS / Madison Site OU1 - Groundwater

	Lab Data Package		CPS-91											
Sample ID			CPS-1		CPS-3A		CPS-6		CPS-7		CPS-8		CPS-9	
Lab Sample No.		NJ Higher of	8629915		8629908		8629918		8629917		8629910		8629914	
Sampling Date		PQLs and	10/7/2016		10/6/2016		10/7/2016		10/7/2016		10/6/2016		10/7/2016	
Matrix		GW Quality	Water		Water		Water		Water		Water		Water	
Dilution Factor for VOCs		2005 Criteria	2 (W = 20)		1 (G = 10)		5 (W = 50)		1		1		1	
Dilution Factor for 1,4-dioxane		(ug/l)	1		1		1		1		1		1	
Units			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
			Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)														
A	1,1,1-Trichloroethane	30	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
B	1,1,2,2-Tetrachloroethane	1	U	0.2	**1.5**	0.1	U	0.5	U	0.1	U	0.1	0.2	0.1
C	1,1,2-Trichloroethane	3	U	0.2	0.2	0.1	U	0.5	U	0.1	U	0.1	U	0.1
D	1,1-Dichloroethane	50	U	0.2	0.1	0.1	U	0.5	U	0.1	U	0.1	U	0.1
E	1,1-Dichloroethene	1	0.2	0.2	0.2	0.1	U	0.5	0.5	0.1	U	0.1	0.2	0.1
F	1,2,4-Trichlorobenzene	9	**15**	0.2	**24**	0.1	U	0.5	1.7	0.1	U	0.1	**18**	0.1
G	1,2-Dichlorobenzene	600	8.4	0.2	43	1	41	0.5	0.6	0.1	0.4	0.1	4.3	0.1
H	1,2-Dichloroethane	2	**5.7**	0.2	**13**	0.1	U	0.5	**2.2**	0.1	0.1	0.1	**3.4**	0.1
I	1,2-Dichloropropane	1	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
J	1,3-Dichlorobenzene	600	6.1	0.2	0.1	0.1	2.2	0.5	U	0.1	U	0.1	3.4	0.1
K	1,4-Dichlorobenzene	75	14	0.2	1.3	0.1	6.9	0.5	U	0.1	U	0.1	6.5	0.1
L	2-Butanone	300	U	2	U	1	U	5.0	U	1	U	1	U	1.0
M	4-Methyl-2-Pentanone	NA	U	2	U	1	U	5.0	U	1	U	1	U	1.0
N	Acetone	6,000	21	6	U	3	U	15	U	3	U	3	U	3.0
O	Acrolein	5	*U*	*8*	U	4	*U*	*20*	U	4	U	4	U	4.0
P	Acrylonitrile	2	U	2	U	1	*U*	*5.0*	U	1	U	1	U	1.0
Q	Benzene	1	**6.1**	0.2	0.3	0.1	**23**	0.5	U	0.1	0.2	0.1	1	0.1
R	Bromodichloromethane	1	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
S	Bromoform	4	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
T	Bromomethane	10	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
U	Carbon Disulfide	700	3.8	0.8	U	0.4	U	2.0	U	0.4	U	0.4	U	0.4
V	Carbon Tetrachloride	1	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
W	Chlorobenzene	50	**72**	2	1.4	0.1	**180**	5	0.1	0.1	5.8	0.1	10	0.1
X	Chloroethane	5*	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
Y	Chloroform	70	U	0.2	0.2	0.1	U	0.5	0.2	0.1	U	0.1	U	0.1
Z	Chloromethane	NA	U	0.4	U	0.2	U	1.0	N.D. U	0.2	U	0.2	U	0.2
AA	cis-1,2-Dichloroethene	70	1.6	0.2	3.6	0.1	3.1	0.5	0.3	0.1	0.4	0.1	1.3	0.1
AB	cis-1,3-Dichloropropene	1	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AC	Dibromochloromethane	1	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AD	Dichlorodifluoromethane	1,000	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AE	Ethylbenzene	700	2.8	0.2	1.1	0.1	U	0.5	U	0.1	U	0.1	0.2	0.1
AF	Methyl Acetate	7,000	U	0.6	U	0.3	U	1.5	U	0.3	U	0.3	U	0.3
AG	MTBE	70	0.6	0.2	0.1	0.1	U	0.5	0.4	0.1	0.2	0.1	3.3	0.1
AH	Methylene Chloride	3	U	0.4	U	0.2	U	1.0	U	0.2	U	0.2	U	0.2
AI	Naphthalene	300	0.2	0.2	0.1	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AJ	p-Dioxane	0.4†	*U*	*40*	*U*	*20*	*U*	*100*	*U*	*20*	*U*	*20*	*U*	*20*
AK	Styrene	100	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AL	t-Butyl Alcohol	100	U	8	U	4	U	20	U	4	U	4	U	4.0
AM	Tetrachloroethene	1	U	0.2	0.7	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AN	Toluene	600	0.5	0.2	U	0.1	0.5	0.5	U	0.1	U	0.1	U	0.1
AO	trans-1,2-Dichloroethene	100	0.3	0.2	0.4	0.1	U	0.5	U	0.1	U	0.1	0.3	0.1
AP	trans-1,3-Dichloropropene	1	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AQ	Trichloroethene	1	0.7	0.2	**4.5**	0.1	U	0.5	0.6	0.1	U	0.1	0.4	0.1
AR	Trichlorofluoromethane	2000	U	0.2	U	0.1	U	0.5	U	0.1	U	0.1	U	0.1
AS	Vinyl Chloride	1	**1.2**	0.2	U	0.08	**2.2**	0.4	U	0.08	U	0.08	0.2	0.08
AT	Xylene (Total)	1,000	2.7	0.2	1.8	0.1	2.6	0.5	U	0.1	U	0.1	U	0.1
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: Method 522)														
a	1,4-Dioxane	0.4†	**1.8**	0.050	**1.6**	0.050	**2.1**	0.052	**1.9**	0.053	**4.6**	0.050	**1.2**	0.050

	Lab Data Package	CPS-94		CPS-93		CPS-90										CPS	
Sample ID		WFH-1		WFH-2		DEP-1		DEP-2		DEP-2 - Matrix Spike		DEP-2 - Matrix Spike Dup		DW-7D		DW-13D	
Lab Sample No.		8660958		8637957		8626728		8626729		8626730		8626731		8626734		8623975	
Sampling Date		10/24/2016		10/12/2016		10/5/2016		10/5/2016		10/5/2016		10/5/2016		10/5/2016		10/4/2016	
Matrix		Water		Water		Water		Water		Water		Water		Water		Water	
Dilution Factor for VOCs		1		1 (N = 10)		1		1		1		1		1		1	
Dilution Factor for 1,4-dioxane		1		1		1		1		1		1		1		1	
Units		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
		Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)																	
A	1,1,1-Trichloroethane	U	0.1	U	0.1	U	0.1	U	0.1	5.7	0.1	5.4	0.1	U	0.1	U	0.1
B	1,1,2,2-Tetrachloroethane	U	0.1	U	0.1	0.2	0.1	**2.3**	0.1	**7.9**	0.1	**7.5**	0.1	0.3	0.1	U	0.1
C	1,1,2-Trichloroethane	U	0.1	U	0.1	U	0.1	0.2	0.1	**6**	0.1	**5.6**	0.1	U	0.1	U	0.1
D	1,1-Dichloroethane	U	0.1	U	0.1	U	0.1	0.1	0.1	5.6	0.1	5.3	0.1	U	0.1	U	0.1
E	1,1-Dichloroethene	U	0.1	U	0.1	**1.3**	0.1	U	0.1	**5.5**	0.1	**5.1**	0.1	0.7	0.1	U	0.1
F	1,2,4-Trichlorobenzene	U	0.1	U	0.1	0.8	0.1	0.2	0.1	6	0.1	5.8	0.1	0.3	0.1	U	0.1
G	1,2-Dichlorobenzene	U	0.1	U	0.1	0.3	0.1	3.6	0.1	9.7	0.1	9.2	0.1	0.1	0.1	0.1	0.1
H	1,2-Dichloroethane	U	0.1	U	0.1	0.3	0.1	0.8	0.1	**6.3**	0.1	**5.9**	0.1	U	0.1	0.1	0.1
I	1,2-Dichloropropane	U	0.1	U	0.1	U	0.1	U	0.1	**5.7**	0.1	**5.5**	0.1	U	0.1	U	0.1
J	1,3-Dichlorobenzene	U	0.1	U	0.1	U	0.1	0.7	0.1	6.7	0.1	6.4	0.1	U	0.1	0.2	0.1
K	1,4-Dichlorobenzene	U	0.1	U	0.1	U	0.1	2.9	0.1	8.9	0.1	8.5	0.1	U	0.1	0.9	0.1
L	2-Butanone	U	1	U	1.0	U	1.0	U	1.0	49	1.0	46	1.0	U	1.0	U	1.0
M	4-Methyl-2-Pentanone	U	1	U	1.0	U	1.0	U	1.0	25	1.0	24	1.0	U	1.0	U	1.0
N	Acetone	47	3	66	30.0	U	3.0	U	3.0	43	3.0	42	3.0	U	3.0	U	3.0
O	Acrolein	U	4	U	4.0	U	4.0	U	4.0	**44**	4.0	**42**	4.0	U	4.0	U	4.0
P	Acrylonitrile	U	1	U	1.0	U	1.0	U	1.0	**34**	1.0	**34**	1.0	U	1.0	U	1.0
Q	Benzene	U	0.1	U	0.1	0.6	0.1	**2.2**	0.1	**8.1**	0.1	**7.8**	0.1	0.3	0.1	0.3	0.1
R	Bromodichloromethane	U	0.1	U	0.1	U	0.1	U	0.1	**5.3**	0.1	**5.1**	0.1	U	0.1	U	0.1
S	Bromoform	U	0.1	U	0.1	U	0.1	U	0.1	**5.2**	0.1	**5.1**	0.1	U	0.1	U	0.1
T	Bromomethane	U	0.1	U	0.1	U	0.1	U	0.1	5.5	0.1	5.2	0.1	U	0.1	U	0.1
U	Carbon Disulfide	U	0.4	U	0.4	U	0.4	U	0.4	6	0.4	5.6	0.4	U	0.4	U	0.4
V	Carbon Tetrachloride	U	0.1	U	0.1	U	0.1	U	0.1	**5.7**	0.1	**5.5**	0.1	U	0.1	U	0.1
W	Chlorobenzene	U	0.1	U	0.1	0.2	0.1	7	0.1	13	0.1	12	0.1	U	0.1	4.0	0.1
X	Chloroethane	U	0.1	U	0.1	U	0.1	U	0.1	**5.5**	0.1	5	0.1	U	0.1	U	0.1
Y	Chloroform	U	0.1	U	0.1	0.1	0.1	U	0.1	5.6	0.1	5.3	0.1	U	0.1	U	0.1
Z	Chloromethane	U	0.2	U	0.2	U	0.2	U	0.2	5.2	0.2	4.8	0.2	U	0.2	U	0.2
AA	cis-1,2-Dichloroethene	U	0.1	U	0.1	0.3	0.1	1	0.1	6.8	0.1	6.4	0.1	0.1	0.1	U	0.1
AB	cis-1,3-Dichloropropene	U	0.1	U	0.1	U	0.1	U	0.1	**5.4**	0.1	**5.2**	0.1	U	0.1	U	0.1
AC	Dibromochloromethane	U	0.1	U	0.1	U	0.1	U	0.1	**5.7**	0.1	**5.4**	0.1	U	0.1	U	0.1
AD	Dichlorodifluoromethane	U	0.1	U	0.1	U	0.1	U	0.1	5	0.1	4.7	0.1	U	0.1	U	0.1
AE	Ethylbenzene	U	0.1	U	0.1	U	0.1	0.1	0.1	6	0.1	5.7	0.1	U	0.1	U	0.1
AF	Methyl Acetate	U	0.3	U	0.3	U	0.3	U	0.3	5.4	0.3	5.2	0.3	U	0.3	U	0.3
AG	MTBE	U	0.1	U	0.1	0.3	0.1	24	0.1	30 E	0.1	29 E	0.1	3.7	0.1	4.8	0.1
AH	Methylene Chloride	U	0.2	U	0.2	U	0.2	U	0.2	**5.5**	0.2	**5.1**	0.2	U	0.2	U	0.2
AI	Naphthalene	U	0.1	U	0.1	U	0.1	U	0.1	5.8	0.1	5.6	0.1	U	0.1	U	0.1
AJ	p-Dioxane	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	**150**	20	**140**	20	*U*	*20*	*U*	*20*
AK	Styrene	U	0.1	U	0.1	U	0.1	U	0.1	5.9	0.1	5.6	0.1	U	0.1	U	0.1
AL	t-Butyl Alcohol	U	4	U	4.0	U	4.0	U	4.0	48	4.0	45	4.0	U	4.0	U	4.0
AM	Tetrachloroethene	U	0.1	U	0.1	U	0.1	U	0.1	**6.2**	0.1	**5.9**	0.1	U	0.1	U	0.1
AN	Toluene	U	0.1	0.1	0.1	U	0.1	U	0.1	6	0.1	5.7	0.1	U	0.1	U	0.1
AO	trans-1,2-Dichloroethene	U	0.1	U	0.1	U	0.1	0.3 U	0.1	6.3	0.1	5.9	0.1	U	0.1	U	0.1
AP	trans-1,3-Dichloropropene	U	0.1	U	0.1	U	0.1	U	0.1	**5.2**	0.1	**5.1**	0.1	U	0.1	U	0.1
AQ	Trichloroethene	U	0.1	U	0.1	0.6	0.1	U	0.1	**6.1**	0.1	**5.8**	0.1	0.7	0.1	U	0.1
AR	Trichlorofluoromethane	U	0.1	U	0.1	U	0.1	U	0.1	6.1	0.1	5.7	0.1	U	0.1	U	0.1
AS	Vinyl Chloride	U	0.08	U	0.08	0.5	0.08	0.5	0.08	**6.2**	0.08	**5.8**	0.08	0.2	0.08	U	0.08
AT	Xylene (Total)	U	0.1	U	0.1	U	0.1	U	0.1	18	0.1	17	0.1	U	0.1	U	0.1
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: Method 522)																	
a	1,4-Dioxane	U	0.050	U	0.052	**3.2**	0.050	**1**	0.051	**1.5**	0.052	**1.6**	0.051	**2.2**	0.051	0.35	0.050

Dilution factor noted parenthetically where different for individual compounds based on row identifier noted to left of compound list
* Interim Generic Ground Water Quality Criteria
† Interim Specific Ground Water Quality Criteria

Qualifiers
U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
NR - Not analyzed.
Bold - Indicated value exceeds Ground Water Quality Criteria.
Italics - Indicated detection limit exceeds Ground Water Quality Criteria.

Table 4
Fall 2016 Groundwater Data

CPS / Madison Site OU1 - Groundwater

	Lab Data Package		-89				CPS-88									CPS-89										CPS-88				CPS-94	
Sample ID			EPA-1		EPA-1-66.0'		EPA-1-71.0'		EPA-1-76.0'		EPA-2		EPA-2-65.0'		EPA-2-70.0'		EPA-2-75.0'		EPA-4		EPA-4-DUPLICATE		EPA-4-67.5'		EPA-4-72.5'		EPA-4-77.5'		EPA-5	
Lab Sample No.		NJ Higher of	8623974		8618397		8618398		8618399		8623969		8623966		8623967		8623968		8623971		8623972		8618400		8618401		8618402		8660957	
Sampling Date		PQLs and	10/4/2016		9/30/2016		9/30/2016		9/30/2016		10/3/2016		10/3/2016		10/3/2016		10/3/2016		10/4/2016		10/4/2016		9/29/2016		9/29/2016		9/29/2016		10/24/2016	
Matrix		GW Quality	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Dilution Factor for VOCs		2005 Criteria	1		1		1		1		1		1		1		1		1		1		1		1		1		1	
Dilution Factor for 1,4-dioxane		(ug/l)	1		1		1		1		1		1		1		1		1		1		1		1		1		1	
Units			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
			Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)																														
A	1,1,1-Trichloroethane	30	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
B	1,1,2,2-Tetrachloroethane	1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.3	0.1
C	1,1,2-Trichloroethane	3	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.1	0.1
D	1,1-Dichloroethane	50	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
E	1,1-Dichloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.6	0.1
F	1,2,4-Trichlorobenzene	9	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.7	0.1
G	1,2-Dichlorobenzene	600	0.4	0.1	0.2	0.1	0.3	0.1	0.3	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	1.1	0.1
H	1,2-Dichloroethane	2	0.9	0.1	0.9	0.1	1	0.1	1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.8	0.1
I	1,2-Dichloropropane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
J	1,3-Dichlorobenzene	600	0.3	0.1	0.2	0.1	0.2	0.1	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.6	0.1
K	1,4-Dichlorobenzene	75	1.4	0.1	0.9	0.1	1	0.1	1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	2.7	0.1
L	2-Butanone	300	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1
M	4-Methyl-2-Pentanone	NA	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1
N	Acetone	6,000	U	3.0	U	3.0	U	3.0	U	3.0	U	3	U	3	U	3	U	3	U	3	U	3	U	3.0	U	3.0	U	3.0	U	3
O	Acrolein	5	U	4.0	U	4.0	U	4.0	U	4.0	U	4	U	4	U	4	U	4	U	4	U	4	U	4.0	U	4.0	U	4.0	U	4
P	Acrylonitrile	2	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1
Q	Benzene	1	**1.2**	0.1	0.9	0.1	1	0.1	**1.2**	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.6	0.1
R	Bromodichloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
S	Bromoform	4	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
T	Bromomethane	10	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
U	Carbon Disulfide	700	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4
V	Carbon Tetrachloride	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
W	Chlorobenzene	50	4.5	0.1	2.9	0.1	3.1	0.1	3.6	0.1	0.6	0.1	0.6	0.1	0.5	0.1	0.6	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	6.2	0.1
X	Chloroethane	5*	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
Y	Chloroform	70	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
Z	Chloromethane	NA	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AA	cis-1,2-Dichloroethene	70	0.9	0.1	0.7	0.1	0.8	0.1	0.8	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.5	0.1
AB	cis-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AC	Dibromochloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AD	Dichlorodifluoromethane	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AE	Ethylbenzene	700	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AF	Methyl Acetate	7,000	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3
AG	MTBE	70	12	0.1	11	0.1	12	0.1	12	0.1	1.3	0.1	1.2	0.1	1.1	0.1	1.1	0.1	0.8	0.1	0.8	0.1	0.8	0.1	0.7	0.1	0.8	0.1	7.5	0.1
AH	Methylene Chloride	3	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AI	Naphthalene	300	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AJ	p-Dioxane	0.4†	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*
AK	Styrene	100	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AL	t-Butyl Alcohol	100	6	4.0	6.7	4.0	7.3	4.0	7.4	4.0	U	4	U	4	U	4	U	4	7.2	4	6	4	5.2	4.0	4.7	4.0	4.7	4.0	U	4
AM	Tetrachloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AN	Toluene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AO	trans-1,2-Dichloroethene	100	0.4	0.1	0.3	0.1	0.3	0.1	0.3	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.2	0.1
AP	trans-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AQ	Trichloroethene	1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.6	0.1
AR	Trichlorofluoromethane	2000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AS	Vinyl Chloride	1	0.09	0.08	0.08	0.08	0.09	0.08	0.1	0.08	U	0.08	U	0.08	U	0.08	U	0.08	0.2	0.08	0.2	0.08	0.2	0.08	0.2	0.08	0.2	0.08	0.5	0.08
AT	Xylene (Total)	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: M																														
a	1,4-Dioxane	0.4†	**1.5**	0.051	**1.4**	0.050	**1.5**	0.050	**1.6**	0.050	**1.1**	0.051	**1.0**	0.051	**0.99**	0.051	**0.99**	0.050	**3.1**	0.050	**3.5**	0.050	**3.6**	0.050	**3.5**	0.051	**3.5**	0.051	**1.3**	0.050

Dilution factor noted parenthetically where different for individua
* Interim Generic Ground Water Quality Criteria
† Interim Specific Ground Water Quality Criteria

Qualifiers
U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification crit
The concentration given is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This in
NR - Not analyzed.
Bold - Indicated value exceeds Ground Water Quality Criteria.
Italics - Indicated detection limit exceeds Ground Water Quality Criteria.

Table 4
Fall 2016 Groundwater Data

CPS / Madison Site OU1 - Groundwater

	Lab Data Package		CPS-91								CPS-89		CPS-91		CPS-90	
	Sample ID		IRM-PZ-4		IRM-PZ-9		IRM-TP-2		IRM-TP-4		KA-2D		MI-08		PA-B	
	Lab Sample No.	NJ Higher of	8629921		8629916		8629922		8629923		8623976		8629913		8626735	
	Sampling Date	PQLs and	10/7/2016		10/7/2016		10/7/2016		10/7/2016		10/4/2016		10/6/2016		10/5/2016	
	Matrix	GW Quality	Water		Water		Water		Water		Water		Water		Water	
	Dilution Factor for VOCs	2005 Criteria	1		1		1 (F, G, J, K, W =10)		20 (G, W = 200)		1		1 (F, W, Q = 10)		1 (G,W=10)	
	Dilution Factor for 1,4-dioxane	(ug/l)	1		1		1		1		1 (e = 50; f = 5)		1		1	
	Units		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
			Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)																
A	1,1,1-Trichloroethane	30	U	0.1	U	0.1	U	0.1	U	2	U	0.1	U	0.1	U	0.1
B	1,1,2,2-Tetrachloroethane	1	U	0.1	U	0.1	0.9	0.1	*U*	*2*	U	0.1	0.6	0.1	U	0.1
C	1,1,2-Trichloroethane	3	U	0.1	U	0.1	U	0.1	U	2	U	0.1	U	0.1	U	0.1
D	1,1-Dichloroethane	50	U	0.1	U	0.1	0.1	0.1	U	2	U	0.1	0.2	0.1	0.2	0.1
E	1,1-Dichloroethene	1	U	0.1	U	0.1	0.3	0.1	*U*	*2*	U	0.1	0.9	0.1	**1.2**	0.1
F	1,2,4-Trichlorobenzene	9	0.2	0.1	0.1	0.1	**150**	1	5.8	2	U	0.1	**26**	1	7.5	0.1
G	1,2-Dichlorobenzene	600	0.5	0.1	0.5	0.1	78	1	**1,000**	20	U	0.1	9.7	0.1	33	1
H	1,2-Dichloroethane	2	U	0.1	U	0.1	**7.1**	0.1	U	2	0.2	0.1	**4.7**	0.1	**7.8**	0.1
I	1,2-Dichloropropane	1	U	0.1	U	0.1	U	0.1	*U*	*2*	U	0.1	U	0.1	U	0.1
J	1,3-Dichlorobenzene	600	0.8	0.1	0.5	0.1	50	1	10	2	U	0.1	1.2	0.1	8.1	0.1
K	1,4-Dichlorobenzene	75	1.6	0.1	1.1	0.1	73	1	52	2	U	0.1	5.1	0.1	19	0.1
L	2-Butanone	300	U	1	U	1	U	1	U	20	U	1.0	U	1	U	1
M	4-Methyl-2-Pentanone	NA	U	1	U	1	U	1	U	20	U	1.0	U	1	U	1
N	Acetone	6,000	3.5	3	U	3	U	3	U	60	U	3.0	4.7	3	U	3
O	Acrolein	5	U	4	U	4	U	4	*U*	*80*	U	4.0	U	4	U	4
P	Acrylonitrile	2	U	1	U	1	U	1	*U*	*20*	U	1.0	U	1	U	1
Q	Benzene	1	0.3	0.1	0.2	0.1	**2**	0.1	**27**	2	U	0.1	**27**	1	**7.2**	0.1
R	Bromodichloromethane	1	U	0.1	U	0.1	U	0.1	*U*	*2*	U	0.1	U	0.1	U	0.1
S	Bromoform	4	U	0.1	U	0.1	U	0.1	U	2	U	0.1	U	0.1	U	0.1
T	Bromomethane	10	U	0.1	U	0.1	U	0.1	U	2	U	0.1	U	0.1	U	0.1
U	Carbon Disulfide	700	U	0.4	U	0.4	U	0.4	U	8	U	0.4	U	0.4	U	0.4
V	Carbon Tetrachloride	1	U	0.1	U	0.1	U	0.1	*U*	*2*	U	0.1	U	0.1	U	0.1
W	Chlorobenzene	50	2.7	0.1	2.9	0.1	**56**	1	**490**	20	U	0.1	**120**	1	**79**	1
X	Chloroethane	5*	U	0.1	U	0.1	U	0.1	U	2	U	0.1	0.1	0.1	0.3	0.1
Y	Chloroform	70	U	0.1	U	0.1	0.2	0.1	U	2	U	0.1	0.2	0.1	U	0.1
Z	Chloromethane	NA	U	0.2	U	0.2	U	0.2	U	4	U	0.2	U	0.2	U	0.2
AA	cis-1,2-Dichloroethene	70	0.2	0.1	0.1	0.1	1.9	0.1	60	2	U	0.1	6.6	0.1	9.8	0.1
AB	cis-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	*U*	*2*	U	0.1	U	0.1	U	0.1
AC	Dibromochloromethane	1	U	0.1	U	0.1	U	0.1	*U*	*2*	U	0.1	U	0.1	U	0.1
AD	Dichlorodifluoromethane	1,000	U	0.1	U	0.1	U	0.1	U	2	U	0.1	U	0.1	U	0.1
AE	Ethylbenzene	700	U	0.1	U	0.1	4.3	0.1	9.3	2	U	0.1	6.5	0.1	0.3	0.1
AF	Methyl Acetate	7,000	U	0.3	U	0.3	U	0.3	U	6	U	0.3	U	0.3	U	0.3
AG	MTBE	70	U	0.1	U	0.1	0.5	0.1	U	2	U	0.1	0.9	0.1	0.8	0.1
AH	Methylene Chloride	3	U	0.2	U	0.2	U	0.2	*U*	*4*	U	0.2	0.7	0.2	0.3	0.2
AI	Naphthalene	300	U	0.1	U	0.1	0.5	0.1	U	2	U	0.1	5.9	0.1	0.1	0.1
AJ	p-Dioxane	0.4†	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*400*	*U*	*20*	*U*	*20*	*U*	*20*
AK	Styrene	100	U	0.1	U	0.1	U	0.1	U	2	U	0.1	0.2	0.1	U	0.1
AL	t-Butyl Alcohol	100	U	4	U	4	U	4	U	80	U	4.0	U	4	U	4
AM	Tetrachloroethene	1	U	0.1	U	0.1	0.4	0.1	*U*	*2*	U	0.1	0.1	0.1	U	0.1
AN	Toluene	600	0.2	0.1	0.1	0.1	0.4	0.1	8.7	2	U	0.1	18	0.1	0.3	0.1
AO	trans-1,2-Dichloroethene	100	U	0.1	U	0.1	0.8	0.1	5.8	2	U	0.1	1.5	0.1	1.8	0.1
AP	trans-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	*U*	*2*	U	0.1	U	0.1	U	0.1
AQ	Trichloroethene	1	U	0.1	U	0.1	**2.6**	0.1	*U*	*2*	U	0.1	**1.6**	0.1	**2.1**	0.1
AR	Trichlorofluoromethane	2000	U	0.1	U	0.1	U	0.1	U	2	U	0.1	U	0.1	U	0.1
AS	Vinyl Chloride	1	U	0.08	U	0.08	**1.5**	0.08	**12**	1.6	U	0.08	1	0.08	**2.4**	0.08
AT	Xylene (Total)	1,000	0.3	0.1	U	0.1	6.6	0.1	3.4	2	U	0.1	12	0.1	0.5	0.1
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: M																
a	1,4-Dioxane	0.4†	**2.2**	0.051	**0.64**	0.050	**2.5**	0.051	**1.4**	0.052	0.24	0.051	**3.0**	0.050	**2.8**	0.051

	Lab Data Package		CPS-91				CPS-90		CPS-91		CPS-88					
	Sample ID		RS-2B		RS-2C		WCC-16VS		WE-2Rb		MW-P5		MW-140		MW-146	
	Lab Sample No.	NJ Higher of	8629912		8629911		8626733		8629909		8618396		8618385		8618387	
	Sampling Date	PQLs and	10/6/2016		10/6/2016		10/5/2016		10/6/2016		9/30/2016		9/28/2016		9/28/2016	
	Matrix	GW Quality	Water		Water		Water		Water		Water		Water		Water	
	Dilution Factor for VOCs	2005 Criteria	10 (W = 100)		10 (W = 100)		1		1 (F = 10)		1		1		1	
	Dilution Factor for 1,4-dioxane	(ug/l)	1		1		1		1		1		1		1	
	Units		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
			Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)																
A	1,1,1-Trichloroethane	30	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
B	1,1,2,2-Tetrachloroethane	1	U	1.0	U	1.0	0.4	0.1	0.1	0.1	U	0.1	U	0.1	U	0.1
C	1,1,2-Trichloroethane	3	U	1.0	U	1.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1
D	1,1-Dichloroethane	50	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
E	1,1-Dichloroethene	1	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
F	1,2,4-Trichlorobenzene	9	**37**	1.0	**40**	1.0	3.1	0.1	**37**	1.0	U	0.1	U	0.1	U	0.1
G	1,2-Dichlorobenzene	600	36	1.0	82	1.0	1.3	0.1	3.3	0.1	U	0.1	U	0.1	U	0.1
H	1,2-Dichloroethane	2	**4.6**	1.0	**6.2**	1.0	1.4	0.1	**6.7**	0.1	U	0.1	U	0.1	U	0.1
I	1,2-Dichloropropane	1	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
J	1,3-Dichlorobenzene	600	7.4	1.0	23	1.0	1.3	0.1	1.9	0.1	U	0.1	U	0.1	U	0.1
K	1,4-Dichlorobenzene	75	20	1.0	50	1.0	3.3	0.1	3.9	0.1	U	0.1	U	0.1	U	0.1
L	2-Butanone	300	U	10	U	10	U	1	5.6	1.0	1.2	1.0	U	1	U	1
M	4-Methyl-2-Pentanone	NA	U	10	U	10	U	1	U	1.0	U	1.0	U	1	U	1
N	Acetone	6,000	U	30	U	30	U	3	200	3.0	5.6	3.0	U	3	U	3
O	Acrolein	5	*U*	*40*	*U*	*40*	U	4	U	4.0	U	4.0	U	4	U	4
P	Acrylonitrile	2	*U*	*10*	*U*	*10*	U	1	U	1.0	U	1.0	U	1	U	1
Q	Benzene	1	**92**	1.0	**32**	1.0	0.8	0.1	0.4	0.1	U	0.1	U	0.1	0.3	0.1
R	Bromodichloromethane	1	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
S	Bromoform	4	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
T	Bromomethane	10	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
U	Carbon Disulfide	700	U	4.0	U	4.0	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4
V	Carbon Tetrachloride	1	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
W	Chlorobenzene	50	**360**	10	**270**	10	6.9	0.1	5.4	0.1	U	0.1	U	0.1	U	0.1
X	Chloroethane	5*	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
Y	Chloroform	70	U	1.0	U	1.0	U	0.1	0.2	0.1	U	0.1	0.1	0.1	U	0.1
Z	Chloromethane	NA	U	2.0	U	2.0	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AA	cis-1,2-Dichloroethene	70	13	1.0	18	1.0	0.7	0.1	0.1	0.1	U	0.1	U	0.1	U	0.1
AB	cis-1,3-Dichloropropene	1	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AC	Dibromochloromethane	1	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AD	Dichlorodifluoromethane	1,000	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AE	Ethylbenzene	700	23	1.0	15	1.0	U	0.1	4.6	0.1	U	0.1	U	0.1	U	0.1
AF	Methyl Acetate	7,000	U	3.0	U	3.0	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3
AG	MTBE	70	U	1.0	U	1.0	21	0.1	0.5	0.1	U	0.1	U	0.1	U	0.1
AH	Methylene Chloride	3	U	2.0	U	2.0	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AI	Naphthalene	300	4	1.0	1.7	1.0	U	0.1	3.6	0.1	U	0.1	U	0.1	U	0.1
AJ	p-Dioxane	0.4†	*U*	*200*	*U*	*200*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*
AK	Styrene	100	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AL	t-Butyl Alcohol	100	U	40	U	40	U	4	4.8	4.0	U	4.0	U	4	7.9	4
AM	Tetrachloroethene	1	U	1.0	U	1.0	U	0.1	0.1	0.1	U	0.1	0.3	0.1	U	0.1
AN	Toluene	600	46	1.0	U	1.0	U	0.1	0.1	0.1	U	0.1	U	0.1	U	0.1
AO	trans-1,2-Dichloroethene	100	3.2	1.0	2.3	1.0	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AP	trans-1,3-Dichloropropene	1	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AQ	Trichloroethene	1	**1.3**	1.0	**1.7**	1.0	U	0.1	0.3	0.1	U	0.1	U	0.1	U	0.1
AR	Trichlorofluoromethane	2000	U	1.0	U	1.0	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AS	Vinyl Chloride	1	**2.8**	0.8	**3.8**	0.8	0.2	0.08	U	0.08	U	0.08	U	0.08	U	0.08
AT	Xylene (Total)	1,000	30	1.0	5.7	1.0	U	0.1	3.3	0.1	U	0.1	U	0.1	U	0.1
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: M																
a	1,4-Dioxane	0.4†	**3.4**	0.050	**2.0**	0.050	**0.85**	0.050	**1.4**	0.050	U	0.050	0.11	0.051	0.38	0.050

Dilution factor noted parenthetically where different for individua
* Interim Generic Ground Water Quality Criteria
† Interim Specific Ground Water Quality Criteria

Qualifiers
U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification crit
The concentration given is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This in
NR - Not analyzed.
Bold - Indicated value exceeds Ground Water Quality Criteria.
Italics - Indicated detection limit exceeds Ground Water Quality Criteria.

Table 4
Fall 2016 Groundwater Data

CPS / Madison Site OU1 - Groundwater

	Lab Data Package		CPS-87								cps-89			
Sample ID			MW-147		MW-148		MW-149		MW-150		MW-142R		RW-5	
Lab Sample No.		NJ Higher of	8618386		8618388		8618383		8618384		8623970 / 8623973		BLOCKED BY PUMP	
Sampling Date		PQLs and	9/28/2016		9/28/2016		9/27/2016		9/27/2016		10/3/16 - 10/4/16			
Matrix		GW Quality	Water		Water		Water		Water		Water			
Dilution Factor for VOCs		2005 Criteria	1		1		1		1		1			
Dilution Factor for 1,4-dioxane		(ug/l)	1		1		1		1		1			
Units			ug/l		ug/l		ug/l		ug/l		ug/l			
			Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)														
A	1,1,1-Trichloroethane	30	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
B	1,1,2,2-Tetrachloroethane	1	U	0.1	U	0.1	0.1	0.1	U	0.1	U	0.1		
C	1,1,2-Trichloroethane	3	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
D	1,1-Dichloroethane	50	U	0.1	U	0.1	U	0.1	0.2	0.1	0.2	0.1		
E	1,1-Dichloroethene	1	U	0.1	U	0.1	U	0.1	0.3	0.1	U	0.1		
F	1,2,4-Trichlorobenzene	9	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
G	1,2-Dichlorobenzene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
H	1,2-Dichloroethane	2	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
I	1,2-Dichloropropane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
J	1,3-Dichlorobenzene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
K	1,4-Dichlorobenzene	75	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
L	2-Butanone	300	U	1	U	1	U	1	U	1	U	1		
M	4-Methyl-2-Pentanone	NA	U	1	U	1	U	1	U	1	U	1		
N	Acetone	6,000	U	3	U	3	U	3	U	3	U	3		
O	Acrolein	5	U	4	U	4	U	4	U	4	U	4		
P	Acrylonitrile	2	U	1	U	1	U	1	U	1	U	1		
Q	Benzene	1	0.3	0.1	U	0.1	U	0.1	0.1	0.1	0.1	0.1		
R	Bromodichloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
S	Bromoform	4	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
T	Bromomethane	10	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
U	Carbon Disulfide	700	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4		
V	Carbon Tetrachloride	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
W	Chlorobenzene	50	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
X	Chloroethane	5*	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
Y	Chloroform	70	U	0.1	0.2	0.1	0.2	0.1	U	0.1	U	0.1		
Z	Chloromethane	NA	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2		
AA	cis-1,2-Dichloroethene	70	U	0.1	U	0.1	U	0.1	1.1	0.1	0.3	0.1		
AB	cis-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AC	Dibromochloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AD	Dichlorodifluoromethane	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AE	Ethylbenzene	700	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AF	Methyl Acetate	7,000	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3		
AG	MTBE	70	U	0.1	U	0.1	U	0.1	0.2	0.1	1.3	0.1		
AH	Methylene Chloride	3	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2		
AI	Naphthalene	300	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AJ	p-Dioxane	0.4†	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*		
AK	Styrene	100	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AL	t-Butyl Alcohol	100	U	4	U	4	U	4	U	4	U	4		
AM	Tetrachloroethene	1	0.2	0.1	U	0.1	0.1	0.1	U	0.1	U	0.1		
AN	Toluene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AO	trans-1,2-Dichloroethene	100	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AP	trans-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AQ	Trichloroethene	1	0.1	0.1	U	0.1	U	0.1	0.5	0.1	U	0.1		
AR	Trichlorofluoromethane	2000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
AS	Vinyl Chloride	1	U	0.08	U	0.08	U	0.08	0.2	0.08	0.2	0.08		
AT	Xylene (Total)	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1		
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: M														
a	1,4-Dioxane	0.4†	0.28	0.051	0.33	0.05	0.12	0.050	**2.2**	0.051	**2.4**	0.050		

	Lab Data Package				CPS-93				CPS-89						CPS-93	
Sample ID			KA-1S		KA-4S		KA-4D		KA-5S		KA-5D		KA-6S		KA-6D		KA-7S	
Lab Sample No.		NJ Higher of	8623977		8637951		8637952		8623978		8623979		8637953		8637954		8637955	
Sampling Date		PQLs and	10/4/2016		10/12/2016		10/12/2016		10/5/2016		10/5/2016		10/12/2016		10/12/2016		10/12/2016	
Matrix		GW Quality	Water		Water		Water		Water		Water		Water		Water		Water	
Dilution Factor for VOCs		2005 Criteria	1		1		1		1		1		1		1		1	
Dilution Factor for 1,4-dioxane		(ug/l)	1		1		1		1		1		1		1		1	
Units			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
			Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)																		
A	1,1,1-Trichloroethane	30	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
B	1,1,2,2-Tetrachloroethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
C	1,1,2-Trichloroethane	3	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
D	1,1-Dichloroethane	50	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
E	1,1-Dichloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
F	1,2,4-Trichlorobenzene	9	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
G	1,2-Dichlorobenzene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
H	1,2-Dichloroethane	2	U	0.1	U	0.1	0.1	0.1	U	0.1	U	0.1	U	0.1	0.1	0.1	0.1	0.1
I	1,2-Dichloropropane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
J	1,3-Dichlorobenzene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
K	1,4-Dichlorobenzene	75	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
L	2-Butanone	300	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0
M	4-Methyl-2-Pentanone	NA	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0
N	Acetone	6,000	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0
O	Acrolein	5	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0
P	Acrylonitrile	2	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0
Q	Benzene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
R	Bromodichloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
S	Bromoform	4	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
T	Bromomethane	10	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
U	Carbon Disulfide	700	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4
V	Carbon Tetrachloride	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
W	Chlorobenzene	50	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
X	Chloroethane	5*	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
Y	Chloroform	70	U	0.1	U	0.1	U	0.1	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1
Z	Chloromethane	NA	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AA	cis-1,2-Dichloroethene	70	U	0.1	U	0.1	0.1	0.1	U	0.1	U	0.1	U	0.1	0.2	0.1	0.1	0.1
AB	cis-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AC	Dibromochloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AD	Dichlorodifluoromethane	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AE	Ethylbenzene	700	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AF	Methyl Acetate	7,000	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3
AG	MTBE	70	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AH	Methylene Chloride	3	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AI	Naphthalene	300	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AJ	p-Dioxane	0.4†	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*
AK	Styrene	100	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AL	t-Butyl Alcohol	100	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0
AM	Tetrachloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AN	Toluene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AO	trans-1,2-Dichloroethene	100	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	0.1	0.1	U	0.1
AP	trans-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AQ	Trichloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AR	Trichlorofluoromethane	2000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AS	Vinyl Chloride	1	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08
AT	Xylene (Total)	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: M																		
a	1,4-Dioxane	0.4†	0.17	0.051	U	0.051	0.12	0.051	0.15	0.050	0.21	0.051	0.054	0.050	0.20	0.051	0.11	0.051

Dilution factor noted parenthetically where different for individua
* Interim Generic Ground Water Quality Criteria
† Interim Specific Ground Water Quality Criteria

Qualifiers
- U - The compound was not detected at the indicated concentration.
- J - Data indicates the presence of a compound that meets the identification crit
  The concentration given is an approximate value.
- B - The analyte was found in the laboratory blank as well as the sample. This in
- NR - Not analyzed.
- **Bold** - Indicated value exceeds Ground Water Quality Criteria.
- *Italics* - Indicated detection limit exceeds Ground Water Quality Criteria.

Table 4
Fall 2016 Groundwater Data

CPS / Madison Site OU1 - Groundwater

Lab Data Package			CPS-92																CPS-91			
Sample ID			KA-7D		DR-3S		DR-3D		DR-4S		DR-4D		DR-5S		DR-5D		PA-7		Field Blank		Trip Blank	
Lab Sample No.		NJ Higher of	8637956		8636613		8636614		8636615		8636616		8636617		8636618		8660959 / L1632764		8629919		8629920	
Sampling Date		PQLs and	10/12/2016		10/10/2016		10/10/2016		10/10/2016		10/10/2016		10/11/2016		10/11/2016		10/24/2016		10/7/2016		10/7/2016	
Matrix		GW Quality	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Dilution Factor for VOCs		2005 Criteria	1		1		1		1		1		1		1		1		1		1	
Dilution Factor for 1,4-dioxane		(ug/l)	1		1		1		1		1		1		1		1		1		not applicable	
Units			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
			Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL			Result	MDL	Result	MDL
VOLATILE COMPOUNDS (GC/MS-8260B 25 mL purge)																						
A	1,1,1-Trichloroethane	30	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
B	1,1,2,2-Tetrachloroethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
C	1,1,2-Trichloroethane	3	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
D	1,1-Dichloroethane	50	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
E	1,1-Dichloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
F	1,2,4-Trichlorobenzene	9	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
G	1,2-Dichlorobenzene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
H	1,2-Dichloroethane	2	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
I	1,2-Dichloropropane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
J	1,3-Dichlorobenzene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
K	1,4-Dichlorobenzene	75	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
L	2-Butanone	300	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1
M	4-Methyl-2-Pentanone	NA	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1
N	Acetone	6,000	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3	U	3	3.4	3
O	Acrolein	5	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4	U	4	U	4
P	Acrylonitrile	2	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1
Q	Benzene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
R	Bromodichloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
S	Bromoform	4	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
T	Bromomethane	10	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
U	Carbon Disulfide	700	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4
V	Carbon Tetrachloride	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
W	Chlorobenzene	50	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
X	Chloroethane	5*	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
Y	Chloroform	70	0.2	0.1	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
Z	Chloromethane	NA	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AA	cis-1,2-Dichloroethene	70	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AB	cis-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AC	Dibromochloromethane	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AD	Dichlorodifluoromethane	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AE	Ethylbenzene	700	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AF	Methyl Acetate	7,000	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3
AG	MTBE	70	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AH	Methylene Chloride	3	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2
AI	Naphthalene	300	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AJ	p-Dioxane	0.4†	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	*U*	*20*	U	20	*U*	*20*	*U*	*20*
AK	Styrene	100	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AL	t-Butyl Alcohol	100	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4	57	4	U	4
AM	Tetrachloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AN	Toluene	600	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AO	trans-1,2-Dichloroethene	100	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AP	trans-1,3-Dichloropropene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AQ	Trichloroethene	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AR	Trichlorofluoromethane	2000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
AS	Vinyl Chloride	1	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U	0.08
AT	Xylene (Total)	1,000	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1
SEMIVOLATILE COMPOUNDS (GC/MS-8270C SIM) / (for PA-7 well: M																						
a	1,4-Dioxane	0.4†	0.16	0.051	0.062	0.052	0.081	0.053	U	0.051	U	0.05	U	0.051	U	0.052	**1.13**	0.156	U	0.051	**N.R.**	

Dilution factor noted parenthetically where different for individua
* Interim Generic Ground Water Quality Criteria
† Interim Specific Ground Water Quality Criteria

Qualifiers
- U - The compound was not detected at the indicated concentration.
- J - Data indicates the presence of a compound that meets the identification crit
  The concentration given is an approximate value.
- B - The analyte was found in the laboratory blank as well as the sample. This in
- NR - Not analyzed.
- **Bold** - Indicated value exceeds Ground Water Quality Criteria.
- *Italics* - Indicated detection limit exceeds Ground Water Quality Criteria.

Table 5 Supply Well Sampling Results Table
CPS Madison Site

Sampling Date	Pumping Conditions / Configuration Start Date	Well 5	Well 6	Well 7	Well 8	Well 9A	Well 9B	Finished Water 1,4-Dioxane Conc. (ug/L)	Analytical Method	Data Package Number
		Raw Water 1,4-Dioxane Conc. (ug/L)	Raw Water 1,4-Dioxane Conc. (ug/L)	Raw Water 1,4-Dioxane Conc. (ug/L)	Raw Water 1,4-Dioxane Conc. (ug/L)	Raw Water 1,4-Dioxane Conc. (ug/L)	Raw Water 1,4-Dioxane Conc. (ug/L)			
03/21/16	PA-7 and PA-9B (3/3/16)			0.54					8270-C SIM	1644259 / CPS74
04/01/16	PA-7 and PA-9B (3/3/16)	0.22	1.0						8270-C SIM	
04/14/16	PA-7 and PA-9B (4/5/16)	0.25	1.1	0.55	<0.051		<0.053	0.23	8270-C SIM	1650849 / CPS76
05/18/16	PA-6A and PA-9B (5/17/16)		1.1				<0.052	0.33	8270-C SIM	1664202 / CPS77
05/27/16	PA-7 and PA-9B (5/21/16)							0.32	8270-C SIM	1666442 / CPS78
06/15/16	PA-5, PA-7, and PA-9B (6/1/16)	0.25		0.57			<0.051	0.28	8270-C SIM	1672838 / CPS79
07/08/16	PA-5, PA-8, and PA-9B (7/7/16)	0.25			<0.051		<0.051	0.057	8270-C SIM	1681521 / CPS80
07/22/16	PA-6A and PA-9B (7/22/16)		1.4				<0.050	0.34	8270-C SIM	1686659 / CPS82
08/04/16	PA-6A and PA-9B (7/22/16)		1.3				<0.051	0.33	8270-C SIM	1691025 / CPS83
08/22/16	PA-6A and PA-9B (7/22/16)		1.84				<0.0721	0.46	8270-D SIM	L1626275
09/01/16	PA-6A and PA-9B (7/22/16)							0.498/0.441	8270-D SIM/522	L1627608
09/12/16	PA-6A and PA-9B (7/22/16)		1.78						8270-D SIM	L1628611
09/30/16	PA-6A and PA-9B (7/22/16)		1.34				<0.096	0.332	522	L1631209
10/12/16	PA-7 and PA-9B (10/8/16)			1.38			<0.100	0.520	522	L1632764
10/24/16	PA-7 and PA-9B (10/8/16)			1.13					522	L1634342
11/11/16	PA-7 and PA-9B (10/8/16)			1.32				0.495	522	L1636708
12/12/16	PA-5, PA-6A, PA-7 and PA-8 (12/3/16)	0.361	1.95	1.44	<0.102			0.916	522	L1640339
01/04/17	PA-6A, PA-8, and PA-9A (1/4/17)		1.53		<0.106	<0.102		0.343	522	L1700199
01/23/17	PA-7, PA-8, and PA-9A (1/6/17)			1.29				0.376	522	L1702206
03/07/17	PA-5 and PA-8 (3/2/17)	0.400			<0.102			0.118	522	L1706955
03/15/17	PA-6A, PA-7, and PA-9A (3/15/17)		1.79	1.24				0.914	522	L1707883
03/23/17	PA-5, PA-6A, and PA-9B (3/23/17)	0.411	1.53					0.391	522	L1709005

Sampling events discussed in this report. Prior events were already evaluated in the Engineered Systems Response Action Report.

TABLE 6
Proposed PMP-IEC-MNA Monitoring Program
CPS/Madison Site OU-1: Groundwater

Well No.	Well Function	VOCs (8260B)		1,4-Dioxane (8270D SIM)		Nitrate (EPA353.2)	Sulfate (EPA 300.0)	Alkalinity (SM 2320B)	Methane/Ethane/Ethene (RSK SOP 175/147)	Chloride (EPA 300.0)	Sulfide (EPA 376.2 or SM 4500-S2 D-2000)	Total Organic Carbon (SW846 9060)	Field Parameters*
		Spring	Fall	Spring	Fall	Fall	Fall	Fall	Fall	Fall	Fall	Fall	Fall
CPS-6	Source Area	X	X	X	X	X	X	X	X	X	X	X	X
CPS-8	Source Area (for 1,4-dioxane)	X	X	X	X	X	X	X	X	X	X	X	X
CPS-1	Source Area	X	X	X	X	X	X	X	X	X	X	X	X
CPS-7	Source Area	X	X	X	X	X	X	X	X	X	X	X	X
WCC-1M	Upgradient (EPLC)	X	X	X	X	X	X	X	X	X	X	X	X
RS-2C	Mid-plume	X	X	X	X	X	X	X	X	X	X	X	X
WCC-11D	Mid-plume	X	X	X	X	X	X	X	X	X	X	X	X
DW-7D	Mid-plume	X	X	X	X	X	X	X	X	X	X	X	X
EPA-5	Mid-plume	X	X	X	X	X	X	X	X	X	X	X	X
KA-5S	Secondary Plume - Sludge Beds	X	X	X	X	X	X	X	X	X	X	X	X
KA-5D	Secondary Plume - Sludge Beds	X	X	X	X	X	X	X	X	X	X	X	X
KA-2D	Sentinel for Receptors	X	X	X	X	X	X	X	X	X	X	X	X
EPA-3	Sentinel for Receptors	X	X	X	X	X	X	X	X	X	X	X	X
EPA-2	Sentinel for Receptors	X	X	X	X	X	X	X	X	X	X	X	X
EPA-4	Sendinel for Receptors	X	X	X	X	X	X	X	X	X	X	X	X

* **Field parameters** include total depth of well, depth of water, dissolved oxygen (DO), pH, temperature, conductivity, and oxidation reduction potentional (ORP)

Plume Monitoring - PMP and IEC

Secondary Lines of evidence for MNA